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Empirical Perspectives on National Index Funds

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This paper — a product of the Debt and International Finance Division, International Economics Department — is a companion paper to the theoretical analysis of country funds by the same authors, "The Pricing of Country Funds and Their Role in Capital Mobilization for Emerging Economies," Policy Research Working Paper 1058. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Azeb Yideru, room H7-053, extension 36067 (October 1993, 49 pages).

Closed-end national index funds (NIFs or "country funds") invest primarily in the stocks of the originating countries, such as Brazil, India, and the Republic of Korea. They are typically traded in the organized exchanges of industrial countries, such as the United States and the United Kingdom. Although NIFs have not raised large amounts of external funds, recently they have expanded rapidly.

In a companion paper ("The Pricing of Country Funds and Their Role in Capital Mobilization for Emerging Economies," WPS 1058), Diwan, Errunza, and Senbet develop a theoretical model to compare the pricing of country funds in the reference markets (say, the United States) with the pricing of the underlying component assets (or net asset valuation) in the originating securities market under various assumptions about market structure.

In this paper, they empirically investigate the hypotheses that emerge from the model. They first analyze country fund pricing and associated premia, or discounts, and then explore the issue of diversification services provided by NIFs from emerging markets. The emphasis on emerging markets is important as many markets are otherwise closed to foreign investors. They compare results across emerging and industrial markets and, where appropriate, over different subperiods.

Their evidence suggests that U.S. investors could benefit significantly in diversification that involves NIFs, particularly funds originating from countries to whose local markets they have limited access.

Diwan, Errunza, and Senbet investigate the pricing of NIFs, testing their principal theoretical predictions about the relative significance of the home market, host market, and global closed-end fund factors. They analyze initial (public-offering literature) and after-market returns, and explain the behavior of fund premia/discounts. The evidence shows that variables that proxy the degree of access and substitution effects show up as significant determinants of country fund premia/discounts.

The empirical study supports their theory about the welfare implication for emerging economies that originate country funds. The model suggests that country funds can improve pricing efficiency in local capital markets and promote local capital mobilization by firms at more favorable terms (lower costs of capital).

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Empirical Perspectives on National Index Funds

by

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SUMMARY

Closed-end national index funds (NIFs or "country funds") primarily invest in the stocks of the issuing or originating countries, such as India, Korea, Brazil, and are typically traded in the organized exchanges of the developed countries, such as the US and the UK. Although the external funds tapped through NIFs have been small to date, they have expanded at a rapid rate over the recent past. This raises the issues of their role in providing pricing efficiency in the originating stock markets of emerging economies and enhancing capital mobilization by local firms of such economies. (Since country funds themselves remain a very small fraction of the stock of external capital available to emerging economies, external capital mobilization is less important.)

This paper is a companion paper to a theoretical analysis of country funds (Diwan, I., V. Errunza, and L. Senbet. "The Pricing of Country Funds and Their Role in Capital Mobilization for Emerging Economies," PRE Paper, 1058, The World Bank, December 1992.) The first paper focussed on the pricing of country funds in the reference markets (say the US) relative to the pricing of the component underlying assets (or net asset valuation) in the originating securities markets. That paper identified several variations of market segmentation structure and arbitrage restrictions.

This paper provides an empirical investigation of country funds with particular attention to their diversification benefits and their pricing behavior. Based on the theoretical analysis of the companion paper, this paper analyzes the empirics of country fund pricing and the associated premia or discounts. The paper explores the issue of diversification services provided by the NIFs from emerging markets. The emphasis on emerging markets is of particular importance,

since many of them are otherwise closed to foreign investors. We compare the results across emerging and developed markets and report them for sub-periods, where appropriate. The evidence suggests a significant diversification benefit to US investors arising from NIFs, particularly those funds originating from countries with limited access to their local markets.

The paper also investigates the pricing of NIFs. Specifically, it tests the principal theoretical predictions regarding the relative significance of the home market, host market and the global closed-end fund factors. It analyzes the initial and after market returns, as in the initial public offering (IPO) literature. It also attempts to explain the behavior of premia/discounts of these funds. The evidence for this question supports the predictions of the companion theoretical paper with regard to the pricing of country funds, relative to their net asset values. Variables that proxy the degree of access and substitution effects show up as significant determinants of country fund premia/discounts.

The empirical support for the theoretical analysis is particularly useful, since the companion paper has advanced a number of welfare implications for emerging economies that originate country funds. The model suggests that country funds can enhance pricing efficiency in the local capital markets and promote local capital mobilization by firms at more favorable terms (lower costs of capital). Thus, we are encouraged that the policy implications drawn from the theoretical analysis for the promotion and support of country funds have an empirical basis.

NATIONAL INDEX FUNDS: EMPIRICAL PERSPECTIVES

Although the benefits of international diversification have been apparent for quite some time, they are impeded by barriers (explicit and implicit) to cross-border portfolio flows. In recent years, National Index Funds (NIFs) that specialize in assets of a given country (or region) and trade on a developed market, such as the NYSE, have been offered as an alternative investment vehicle to foreign markets.[1] Some of these funds specialize in developed markets (DMs) that are largely devoid of explicit barriers but may involve high transaction, information and other costs. Other funds invest in Emerging Markets (EMs), many of whom have imposed prohibitive barriers to foreign investments. Thus, many EM funds may provide the only opportunity to investors who wish to diversify in these closed markets.[2]

From the perspective of the home country, the NIFs may serve several purposes: (a) serving as a means of attracting external funds, (b) developing and liberalizing local capital markets, and (c) providing pricing efficiency through globalization, thereby enhancing local mobilization of investment capital. As argued in the companion paper, although the external funds tapped through NIFs have been small to date, their contribution to the local economy can be substantial through pricing efficiency and local capital mobilization. Despite the significance

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[1]This is primarily a late 1980's phenomenon, although a few funds were available prior to 1985.

[2]Indirect investments through the multinationals and a handful of American depository receipts are also available. See Errunza and Senbet (1981) for the valuation effects of indirect diversification through multinationals.

of the NIFs and their phenomenal growth since 1986 (see Figure 1), though, important empirical issues remain largely unexplored.[3]

This paper provides an empirical investigation of country funds with particular attention to their diversification benefits and their pricing behavior. The theoretical analysis of the companion paper will provide a basis for the empirics on country fund pricing and the associated premia or discounts. We begin with a description of the data and sample. In Section II, we explore the issue of diversification services provided by the NIFs from emerging markets. The emphasis on EMs is of particular importance, since many of them are otherwise closed to foreign investors. The theoretical gains from diversification are compared with the achievable NIF-based diversification. We compare the results across EMs and DMs and report them for subperiods, where appropriate. Section III reports on the pricing of NIFs. Specifically, it tests the principal theoretical predictions regarding the relative significance of the home market, host market and the global closed-end fund factors. Section IV analyzes the initial and after market returns as in the initial public offering (IPO) literature. Section V attempts to explain the behavior of premia/discounts based on theoretical predictions of the companion paper. Section VI provides concluding remarks.

I - THE DATA AND SAMPLE

The study covers all closed-end single country funds publicly traded in New York by the end of 1990. Table 1 lists the thirty-two funds in the sample, their offering dates and the

[3]Bailey and Lim (1989, 1990) analyze the diversification benefits and some issues related to their initial offerings.

number of weeks of trading.[4] Eighteen funds are from EMs and 14 from DMs. Table 2 provides the initial size, number of shares, price and value at the end of 1990. It should be noted that the initial size represents total capital raised by the fund through one or more offerings up to the end of 1990. About 39% of the global market value in 1990 corresponds to EM funds. Figure 1 documents the dramatic increase since 1981 through 1990.

The data base contains weekly data for each fund since its inception. It comprises: Friday closing prices as reported in the NYSE records; net asset value (NAV) as obtained from fund managers; dividends and distributions of capital gains; local stock market index provided by local exchanges; representative indices calculated by the International Finance Corporation for fifteen funds -eleven countries- (series start only in January 1989); exchange rates (from IMF) between local currencies and U.S. dollar; and the Standard & Poors Composite Stock Price Index of 500 Stocks. Tables 3 to 6 report returns on the various funds. Table 7 reports returns on the corresponding local stock market indices.

II - GAINS FROM DIVERSIFICATION INTO EMERGING MARKETS

The gains from international portfolio diversification documented in traditional analyses do not take account of barriers to capital flows and the associated costs of accessing capital markets across national boundaries.[5] It is apparent that portfolio capital does not flow freely

[4]Twelve closed-end multi-country funds that traded in New York are not included in the study. We also do not consider non-diversified country funds, warrant funds or debt-conversion funds.

[5]See Levy and Sarnat (1970) and Errunza (1977), among others.

among many EMs and a number of developed markets.[6] Thus, the evidence based on the assumption of free flow of capital and corresponding market indices may not reflect the true benefits of diversification.

The purpose of this section is to provide new evidence on the benefits of international diversification. The emphasis will be on EMs, many of whom are closed to foreign investors. We use the freely accessed National Index Funds that are also freely traded on the U.S. stock exchanges together with various freely accessible developed market portfolios to document gains from international diversification. We also use the EM and DM market indices (many of which are not freely accessible) to provide comparisons with past work and distinguish among theoretically desirable versus practically attainable diversification opportunities.[7]

Following the tradition, we begin by reporting the pairwise correlations, and then the systematic risks of the various NIFs with respect to the benchmark local and U.S. market indices. We proceed to develop various mean-variance efficient frontiers to document theoretical gains from diversification based on various market indices and the diversification potential based solely on the U.S. market that includes the National Index Funds. Finally, we provide the evidence of attainable diversification gains from the U.S. perspective based on all available assets, including all NIFs from developed and emerging markets as well as all freely accessible

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[6]Stulz (1981) and Errunza and Losq (1989), among others, develop asset pricing models that suggest higher expected returns on securities from markets that cannot be accessed freely.

[7]Note that the debate as to whether the National Index Funds serve as a substitute for direct portfolio investments in the corresponding markets is moot in the case of markets otherwise closed to foreign investors. In the statistical sense, though, the behavior of NIFs will be compared to the underlying assets and market indices in this and the next section.

national market portfolios. Comparisons are made across DM and EM assets, and where appropriate, the results are reported for subperiods to establish time stability.

II.1 - Pairwise Correlations

We begin with a correlation analysis for the period 1989-1990. The price returns are based on market clearing prices of the NIFs in the above host (U.S.) market. The NAV returns are based on home market clearing prices of the underlying securities that constitute the NIF. Note that we do not include dividends in computing price and NAV returns so as to make them comparable with returns on various market indices (which are not adjusted for dividends) used in the analysis of this paper. The results are presented in Table 8 and summarized below. The coefficients of correlation are: between returns on prices (ROP) and NAVs is $C_{P,N}$; between ROP and returns of local market index in U.S.$ (RLM) is $C_{P,L}$;[8] between ROP and returns on S&P500 is $C_{P,SP}$; between NAV returns and RLM is $C_{N,L}$; and between NAV and S&P500 is $C_{N,SP}$.

[8]Table 8 also contains correlation coefficients computed between price and NAV returns with respect to IFC local stock market indexes. Whenever there is no IFC index, a N.C. (non computable) messages appears.

Table I: Summary of Correlations of Prices and NAVs

	Mean	Std. Dev.	Maxim	Minim
$C_{P,N}$	0.4136	0.1780	0.7175	-0.039
$C_{P,L}$	0.4525	0.1560	0.7941	0.2167
$C_{P,SP}$	0.3297	0.1465	0.5680	-0.131
$C_{N,L}$	0.7851	0.1764	0.9784	0.1944
$C_{N,SP}$	0.2143	0.1934	0.5468	-0.161

Source: Table 8.

These numbers are (across funds) averages of the correlation coefficients computed between two variables for each fund. For example, the correlation coefficients between prices and NAVs are computed first for each fund, resulting in a new series of thirty-two observations. Then a univariate exercise is done on that series, to obtain a mean of 0.4136, standard deviation of 0.178, and so on. The same procedure is used for the other four pairs of coefficients.

The first coefficient (0.4136) reflects that returns on prices and on NAV have recorded some degree of co-movement over the period, in average terms. This provides the initial evidence of imperfect substitution between NIFs and their underlying assets (see Case III of the companion paper).

Secondly, country funds price returns are slightly more correlated with the home country index returns (average of 0.4525) than to S&P500 index returns (0.3297). Given that the typical

correlation among U.S. securities is about 0.5 to 0.6,[9] this is preliminary evidence that country funds, on average, provide diversification benefits to a U.S. investor. On average, the EMs are also less correlated with the S&P500 in comparison to DMs, thus providing some support to the higher diversification potential of EMs over DMs. As expected, returns on NAV are much more closely associated with returns on local stock market indexes (0.7851) than to returns on S&P500 (0.2143).

II.2 - Components of Risk

A risk components analysis is conducted by regressing NIF price returns on their corresponding local stock market returns (Model 1) and then on the S&P500 returns (Model 2), respectively. The detailed results are reported in Table 9 and are summarized below:

Table II. Decomposition of Risk

	Model 1 (%)	Model 2 (%)
Average systematic risk Average unsystematic risk	22.8 77.2	13.1 86.9
Total risk (variance)	100.0	100.0
Maximum unsystematic risk	95.3 (India)	100.0 (Turkish)
Maximum systematic risk	63.1 (Emer. Germ)	32.5 (Irish I.)

Source: Table 9.

[9]Chapter 8 of Frank K. Reilly, "Investment Analysis and Portfolio Management", Third Edition.

For each model and each fund, the residual variance is computed by squaring the residuals from the estimated model. Systematic risk is given by the square of the product of the beta (the slope of the regression) with the market return standard deviation.

The results of all regressions are reported in Table 9. Averages are across all regressions, for each model.

$$\sigma_R^2(Fund) = \beta^2 \sigma_R^2(Market) + \sigma^2(Residual)$$

where,

$$\beta = \frac{Cov[R(Fund), R(market)]}{Var[(R(market)]}$$

and

R (market) = Home market in model 1

S&P500 in model 2

R (Fund) = Price return

On average, the proportion of variance, that is attributable to the unique features of country funds, and not by the movements of their local stock markets, is about 77% in the case of Model 1. The average share increases up to 87% when the market measure used characterized by the movements of the S&P500 index. Another interesting feature is that the

maximum systematic risk proportion for Model 2 is about one half of the maximum of same risk for Model 1.

Again, these results suggest that international diversification via NIFs is desirable for the U.S. investor. It also points out that, on average, the NIFs are not a good proxy for their corresponding local market index (i.e., NIF-based diversification gains would be lower than theoretical diversification gains based on (inaccessible) local market indices).

II.3 - Mean-Variance Efficient Frontiers

Although there are 18 EM and 14 DM funds that trade on the NYSE representing 13 EMs and 10 DMs, in this subsection, we include all NIFs that continuously traded over the period July 1989 to June 1991. Thus, the data consists of weekly returns on 8 EM and 6 DM national index funds traded on the NYSE and the corresponding data on 7 EM and 6 DM market portfolios. The efficient frontiers are defined as usual as the set of portfolios that have less risk than any other with comparable expected return, and more return than any other with comparable risk. These frontiers were developed using standard packages using historical time series of returns.[10]

II.3.1 - Idealized Diversification Gains

We first investigate whether the diversification benefits documented in the past studies carry through to the more recent period and for our sample countries. Specifically, we inquire whether the benefits (in terms of mean-variance (M-V) efficiency) to the passive U.S. investor sequentially increase as (s)he diversifies into developed and emerging markets. As in the previous studies, we use various market indices and assume no barriers to international

[10] Since the local market indices do not include dividends, we do not include distributions of the sample NIFs in computing returns. We use the S&P500 without dividends as a proxy for the U.S. market return.

investments, and hence the diversifications are presumed to be achieved in an idealized, costless manner.

Figure 2 plots the M-V efficient frontiers for 6 developed and 7 emerging market indices over the July 1989-June 1991 period. It is apparent that the passive U.S. investor (in S&P 500) would have improved performance by diversifying into other markets. Consistent with past studies, the benefits of such investments into EMs are substantially larger than those of developed markets. The S&P 500 portfolio is sequentially dominated by efficient frontiers based on developed markets, emerging markets and the global markets.[11] Thus, the traditional diversification argument carries through to the most recent period.

II.3.2 - U.S. Based Diversification

The previous results (and past studies) do not account for the possible impediments facing U.S. investors in accessing the sample countries. It is now a common knowledge that there are a host of market imperfections (barriers) that inhibit free portfolio flows across national boundaries, particularly emerging and less developed economies. The barriers may take the form of border taxes, exchange controls or capital flow restrictions. Further, the pricing relationships undergo substantial revision on removal of such barriers. Thus, the gains from diversification documented in past studies and the previous section may be illusory. Finally, due to regulatory restrictions (% of foreign traded assets that can be held in a pension fund) and personal preferences, U.S. investors may wish to restrict their investment opportunity set to securities traded on the home market. Thus, this section restricts the U.S. investor opportunity set to securities traded on the NYSE.

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[11]Note that at the lower risk levels, the global frontier dominates the EM frontier. At higher levels of risk, the two (global and EM) frontiers overlap since no developed markets enter the M-V efficient portfolios.

Figure 3 plots M-V efficient frontiers based on 6 NIFs from developed countries and 8 NIFs from the emerging markets over the July 1989-June 1991 period.[12] Although the benefits of international diversification are not as dramatic as those in the previous section, they are substantial. Again the S&P 500 portfolio is dominated by developed market NIFs which in turn is dominated by the frontier based on emerging market funds. Thus, the benefits of international diversification are real and the portfolio performance can be substantially enhanced by including emerging markets in the opportunity set.

To summarize, the traditional argument of international diversification carries through to the most recent period. The benefits reported in this section are real based on freely traded and accessible assets and suggest the advisability of global diversification that includes assets from emerging markets.

III - PRICING OF NIFs

The evidence presented in the previous section suggests that, although NIFs provide substantial diversification benefits to U.S. investors, the gains are smaller than if they had access to the originating market portfolios or if the funds had been designed to mimic the local index (i.e., a true national index fund). This raises an important question as to the pricing of these funds. Specifically, do these funds behave like domestic U.S. securities or follow the originating country returns? Bailey and Lim (p. 8, 1989) conclude that, "country funds are priced more like domestic U.S. stocks than the foreign equities they are invested in." They consider intraday

[12] All results are reported for returns based on prices since NIFs can only be traded (as a unit) on price basis. Note that the risk-return performance based on NAV dominate that based on prices for all NIFs. Detailed results are available from the authors.

correlations and volatilities during trading and non-trading hours. Their tests follow the existing empirical literature on cross-border stock market relationships. Although they attempt to explain these results, we must study this issue further based on theoretical insights of the companion paper. Note that their conclusion is consistent with the prediction of Case II of the companion paper which rests on perfect substitution and imperfect arbitrage.

III.1 - Imperfect Substitution

As noted earlier, the return behavior of NIFs in our sample does not qualify them as perfect substitutes for the underlying assets traded in the home market. As further evidence, consider the ratio of standard deviations of price returns and NAV returns for the sample NIFs [ratio (1)/(2)] as reported in Table 10. In all cases the price returns display substantially higher volatility compared to the NAV returns. The mean of the ratio of volatilities is 2.12 with a standard deviation of 0.79. The only exceptions are Turkish and Brazil funds whose portfolios had substantial holdings of the U.S. T-bills during the period studied. This leads us to consider the empirical implications of Case III of the companion paper, that admits imperfect substitution, in what follows.

III.2 - Methodology

The multiple-partial correlation coefficients are used to study the relationship between returns on funds and the given market factor(s) while controlling for the influence of the other factor(s). For example, we first test the importance of the U.S. factor while controlling for the originating country factor. That is, we test the hypothesis,

(1) $$H_0: \rho R_{ci}(R_{us}) | R_{di} = 0$$

using sample multiple-partial correlation. To test the hypothesis, we calculate the F statistics,

$$F = \frac{[SSR(R_{di} \text{ in } Model) - SSR(R_{us}, R_{di} \text{ in } Model)]/k}{SSR(R_{us}, R_{di} \text{ in } Model)/n-p}$$

where R_{ci} is the price return on ith fund, R_{us} is the return on S&P500, R_{di} is return on the ith market index, k refers to number of restrictions (one in this case), n is the number of observations, ρ is the number of parameters (total number of independent variables plus the constant - 3 in this case), and SSR (·) refers to the relevant sum of squared residuals.

We reject H_0 at α level if $F \geq F_{K, n-p, 1-\alpha}$. We test the following other hypotheses,

(2) $$H_0: \rho R_{ci}(R_{di}) | R_{us} = 0$$

(3) $$H_0: \rho R_{ci}(R_{us}) | R_F = 0$$

(4) $$H_0: \rho R_{ci}(R_{di}) | R_F = 0$$

(5) $$H_0: \rho R_{ci}(R_{us}) | R_F, R_{di} = 0$$

(6) $$H_0: \rho R_{ci}(R_{di}) | R_F, R_{us} = 0$$

where R_F is the return on global fund index based on total sample. This index is value-weighted and calculated for Price and NAV series corresponding to the two (developed and emerging) subgroups of funds and the total sample. Details are available from the authors. Note that the tests using global fund factor that conforms neither to the originating countries nor to the host

countries is based on the prediction of the Case III of the companion paper. We argued in the companion paper that there may be other factors that are unrelated to either originating countries or reference countries that affect country fund prices. With such "imperfect substitution", we postulated that there may be a factor related to noise trading activity that would be common to all funds. We attempt to capture this factor through the construction of the global fund index based on our sample of NIFs.

III.3 - Results

To test the hypotheses outlined above, the following regressions were run for each ith fund since their time of inception:

$$R_{ci} = \alpha_1 + \beta_1(R_{di}) + \mu_1$$
$$R_{ci} = \alpha_2 + \beta_2(R_{di}) + r_2(R_{us}) + \mu_2$$
$$R_{ci} = \alpha_3 + r_3(R_{US}) + \mu_3$$
$$R_{ci} = \alpha_4 + \delta_4(R_F) + \mu_4$$
$$R_{ci} = \alpha_5 + r_5(R_{us}) + \delta_5(R_F) + \mu_5$$
$$R_{ci} = \alpha_6 + \beta_6(R_{di}) + \delta_6(R_F) + \mu_6$$
$$R_{ci} = \alpha_7 + \beta_7(R_{di}) + r_7(R_{us}) + \delta_7(R_F) + \mu_7$$

Tables 11a and 11b report the relative importance of the domestic, U.S. and the (total sample) global factors for the NIFs from developed and emerging countries respectively. Specifically, we report the calculated F values and their significance levels for the six hypotheses under investigation. Similar results are reported in Tables 11c and 11d with the total sample global factor being replaced by the subgroup (developed or emerging) global factor for the corresponding group of NIFs.

Let us first review the importance of the U.S. factor in explaining the price returns of developed market NIFs (Table 11a). The U.S. market factors' importance is significant for 8

of the 14 funds after taking into account the influence of the corresponding domestic market factor. The U.S. market factor is less important (for 5 of the 14 funds) if we were to take into account the global factors influence. The importance of the U.S. factor almost disappears (except in one case) when we take into account the contributions of the domestic as well as the global factors. Let us now consider the importance of the domestic factor. It is significant for 12 of 14 funds after taking into account the influence of the U.S. factor and for 6 of 14 funds when the impact of global factor is taken into consideration. If both the U.S. and the global factors are included, the importance of the domestic factor in explaining price returns of developed market NIFs is reduced to 5 of 14 funds. The findings remain unaltered when the total sample global factor is replaced by a factor based on only the developed market NIFs (Table 11c). Thus, for our sample of developed market NIFs, the global factor seems to be the most important in explaining price returns followed by the domestic market factor. The U.S. factor does not seem to be important except in the case of Spain fund price returns which seem to be affected solely by the movements in the S&P 500 index return.

The results are very similar for emerging market funds (Tables 11b and 11d). Although, the U.S. factor is important in the presence of the home market factor, its importance declines precipitously when the global factor is taken into account. Although the home factor also becomes less important given the global factor, it remains significant in a majority of cases.

To summarize, the results of this section provide strong support to the theoretical predictions of the companion paper. The case III of the companion paper, which admits imperfect substitution and suggests the presence of an additional factor common to NIFs, is borne out by the importance of the global index factor in explaining price returns of NIFs from

EMs and DMs as reported in this section. This finding has important implications for the design of NIFs and policies to reduce imperfect substitutability of the funds and its component assets traded in the home market.

IV - IPOs OF NIFs

The theoretical and empirical literature dealing with the underpricing of IPOs of individual U.S. firms is extensive.[13] These authors contend that underpricing results from information asymmetry and gaming strategies among various IPO participants. On the other hand, Mauer and Senbet (1992) develop an equilibrium model of IPO's that suggest that the so-called underpricing is a fair price differential based on incomplete access and imperfect substitution of the IPO in the secondary market. Recently, Peavy (1990) tests the IPOs of closed-end funds, and reports a mean initial return not significantly different from zero and attributes it to knowledge regarding the value of the underlying assets i.e. low information asymmetry. His conclusions also hold for the subset of international closed-end funds if three special-access funds that prohibit direct portfolio investments by U.S. investors are excluded. He also reports significantly negative after market returns. In a similar vein, Bailey and Lim (1990) also report statistically insignificant initial returns on average with high positive returns on funds specializing in Pacific Rim and Eastern Europe. With respect to after market returns, they report poor performance except in the case of Pacific Rim countries.

[13]See for example, Ibbotson (1975), Ritter (1984) and Rock (1986).

IV.1 - Initial Returns

For our sample of NIFs, we calculated the initial returns defined as the offering day's closing price minus the offering price divided by the offering price.[14] The results are reported in Table 12. With respect to the emerging market funds, the initial returns are all positive with the exception of Emerging Mexico Fund and insignificantly negative returns for India and Mexico Equity/Income Funds. The mean return is a highly significant 6.44%, suggesting significant underpricing of EM funds. The information asymmetry and the difficulty of access, coupled with the diversification potential of EMs, may give rise to this initial return. For developed markets, with some exceptions, returns cluster around zero consistent with past findings. The average mean return is 5.02% which reduces to an insignificant 0.74% if we exclude the abnormal performance of the New Germany Fund.

IV.2 - After Market Returns

The after market returns are calculated as percent returns from the first trading day to the ninetieth calendar day i.e. end of the 13th week. The results are reported in Table 12. The after market returns for EMs on average are slightly negative. If we were to exclude the abnormally high return on the Taiwan Fund, the returns become substantially lower. Inclusion of the impact of the opportunity cost (i.e., T-bill interest rate) would further lower the performance. As a subgroup, the Pacific Rim countries outperform the other EMs. Thus, the result is consistent with Bailey and Lim (1990). With respect to the developed market funds,

[14]Due to uncertainty regarding offering date and data problems, the initial return is based on the closing price of 2nd or 3rd trading day for a few funds. This should not cause any concern since as Peavy (p. 697, 1990) states, "semi-strong form market efficiency implies that closed-end fund returns will not be significantly different from zero on days subsequent to the initial trading day".

the returns are more negative (-12.79%), on average, and are similar to those reported by Peavy (1990).

IV.3 - The Seasoning Effect

As suggested in Mauer and Senbet (1992) and as extended to the NIFs in the companion paper, we would expect a lowering of the underpricing due to the access effect, as new funds that are spanned (by existing funds) in the host market are issued. This is borne out in the case of Mexico - Mexico Equity/Income - Emerging Mexico; Taiwan - R.O.C. Taiwan; Indonesia - Jakarta and New Germany - Future Germany - Emerging Germany. Note that we do not include Germany Fund, which was issued in 1986, whereas the other three German Funds were issued during January-March 1990, a period characterized by German reunification and political changes in Eastern Europe. Only the Spain - Growth Spain Funds do not conform to the seasoning hypothesis. Of course, a rigorous examination of this issue should involve a careful consideration of the issue dates, market environment, the fund investment objectives, relative issue sizes, etc.

V - PREMIUMS/DISCOUNTS ON NIFs

Premiums/discounts are determined by comparing NAV with closing market prices. When the market value of a share is above its NAV, the fund is selling at a premium, and when the market price is below NAV it is selling at a discount. Both NAV (the current value of the component, underlying assets) and the closing market prices are readily observable, since the underlying assets are marketable securities in the local markets, and the closing prices are obtained from the stock markets of the host countries. Thus,

$$\text{PREMIUM/DISCOUNT} = \frac{(PRICE - NAV)}{NAV} x100$$

Average weekly premiums/discounts for each of the thirty-two funds and their corresponding standard deviations and coefficient of variation are reported in Tables 13 and 14 respectively.

V.1 - Determinants of Premium/Discount

On the basis of the existing literature and the theoretical insights of the companion paper, we can postulate the premium (discount) as dependent on (a) degree of access to the local market, (b) degree of spanning of local assets within the host market, (c) degree of substitution between the fund and its underlying assets, (d) the fund size, and (e) global country fund discount.[15]

V.2 - Variable Definitions

Premium/discount (PD): The premium/discount for all funds show high fluctuations over time. Detailed data are available from the authors. Given the scope of this project, we do not conduct empirical tests that would explicitly consider the investor sentiment/noise trader hypotheses.[16] Rather, we conduct cross-sectional and time-series analysis as detailed below.

Degree of access (ACC): It is very difficult to systematically classify our sample by degree of access. No study exists (to our knowledge) that would provide us with indicators or

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[15]As discussed in the companion paper, the premium (discount) will also depend on differential price of risk, differential tax rates, differential real interest rates, changes in market sentiment and noise trading, arbitrage restrictions and expropriation risk. Given the limitations of data and scope of the project, these variables will not be explicitly considered.

[16]As Long, Shleifer, Summers and Waldmann (1990) state, "The fluctuations in noise trader opinion of the expected return on the funds also explain why the discounts fluctuate". Although there appears to be some corroborating evidence in favor of the hypotheses put forward by Lee, Shleifer and Thaler (1991), a systematic analysis would require some additional data and modelling.

benchmarks to construct an index. As the second best alternative, we have divided our sample countries into three categories based on IFC Emerging Stock Markets Factbooks 1989 and 1990. (a) Completely open:- All ten developed markets, Singapore, Malaysia, Portugal (b) Relatively easier access:- Thailand, Indonesia, Mexico, Philippines, Turkey (c) Virtually closed:- Korea, Taiwan, Brazil, India, Chile. We would expect the premium to be relatively higher for funds that invest in markets with difficult access.

Degree of spanning within host market (SPN): As discussed in the companion paper, the availability of substitute assets (for a given fund) in the host market would determine the potential diversification benefits of the fund under consideration. The natural proxy would be the residual volatility of a fund obtained from time series regressions on the U.S. index. Since this proxy would suffer from measurement error problem, we consider another proxy for diversification benefits, namely the host and home market returns correlation coefficient. A priori, we would expect higher premium for funds with the lower correlation.

Degree of substitution between the fund and the underlying assets (SUB): The results of the companion paper suggest that the degree of substitution between the fund and the underlying asset has an important bearing on the premium/discount. We use the ratio of volatility of price and NAV returns as a reasonable proxy to capture the degree of imperfect substitution. We would expect a higher ratio to have a lower premium effect.

Fund size (FSZ): The initial size of the offering could proxy investor demand, since the size is usually determined by the investment bankers to reflect market interest and conditions. We would expect a larger initial offering to command a larger premium.

Global country fund premium/discount (AGB): Given the theoretical prediction of a common NIF factor and the results of Section III that suggest the significance of the global factor, we incorporate the global premium/discount as an independent variable. We would expect a positive relationship between the individual fund premium/discount and the global premium/discount.

V.3 - The Test Procedure

Following the preceding discussion, we postulate the following relationship:

$$[(PD)_{i,t}] = Constant + \beta_1(ACC)_i + \beta_2(SPN)_{i,t} + \beta_3(SUB)_{i,t} + \beta_4(FSZ)_i + \beta_5(AGB)_t + error\ term$$

The variables in the above relationship are as defined previously. Subscripts i and t denote the ith fund and t^{th} period, respectively. It should be noted that the [(AGB)] discounts vary over time whereas the degree of Access (ACC) and the fund size (FSZ) vary across the funds. That is, depending on the variable, there is time variation, variability across funds, or both. In order to capture these properties, we conduct time series and cross-sectional tests.

Time-Series Tests: For each fund, the test uses all available data. Since the global country fund premium/discount can be calculated from January 1989 (based on 13 available NIFs) the test period begins in January 1989 or later. We use correlation coefficient between the host and home market returns as the proxy for (SPN) and the ratio of price to NAV return volatility as the proxy for (SUB). In both cases, we use a proxy formation period of 26 weekly observations (host-home market returns for correlation and price - NAV returns for volatility) preceding the test period to estimate the two proxies ($\hat{SPN}$) and ($\hat{SUB}$). That is, observations for t = -25, ... 0 periods are used to arrive at the proxy estimate for the t=1 period. Similarly,

observations for t = -24, ... 0, 1 periods are used to arrive at the proxy estimate for the t = 2 period and so on. Thus, the proxy formation period for each subsequent test period is obtained by replacing the first observation of the previous proxy formation period by the observation corresponding to the last test period. Finally, the following OLS regression is run for each ith fund.

$$[(PD)_t] = \text{Constant} + \beta_1(\hat{SPN})_t + \beta_2(\hat{SUB})_t + \beta_3(AGB)_t + \textit{error term}$$

Cross-Sectional Tests: Seventeen of the funds in our sample have complete data beginning in December 1989. The sample increases to twenty-nine funds in July 1990. Since 6 months (twenty-six observations) are used to calculate proxies ($\hat{SPN}$ and $\hat{SUB}$) for each fund as described under the time-series tests above, we have a total of 57 periods (27 for a seventeen fund sample and 30 for a twenty-nine fund sample) for cross-sectional tests. The following OLS regressions are run for each of the 57 periods (weeks):

$$[(PD)_i - AGB] = \textit{Constant} + \rho_1(\hat{SPN})_i + \rho_2(\hat{SUB})_i + \rho_3(FSZ)_i + \textit{error term}$$

where all variables are defined as before.

Since the global country fund premium/discount is invariant across funds for a given period, we use the NIF premium/discount net of the AGB as the dependent variable as in Errunza (1991). These regressions result in weekly OLS values of the coefficients (ρ's) for each of the 57 periods. Note that although it would be interesting to include the access variable in these regressions, the use of two dummy variables to capture three categories would add two intercept and six slope terms (on R.H.S.). Given the very small sample sizes, we have found it appropriate to exclude this variable.

V.4 - Test Results

The time series test results are reported in Table 15. Since the residuals indicated significant auto correlation, we used the Cochrane-Orcutt procedure. The resulting residuals are well behaved. In all cases, the adjusted R^2 are reasonably high - they range from a low of 29.6% for France Fund to a high of 95.98% for Korea Fund. The spanning variable is significant for only four sample NIFs. The substitution variable does somewhat better being significant in 9 of the 29 cases. Further, 3 out of 4 and 5 out of 9 significant coefficients for spanning and substitution proxies respectively suggest positive relationship with the premium/discount. Thus, the results are not very encouraging with respect to these two variables. Potential difficulty may lie with the choice of proxies. For example, both the proxies are very volatile in case of most funds. During our test period, the correlation coefficient (SPN) for Thailand moves over time from positive (high of 0.34) to negative (low of -0.32) to positive (high of 0.58). With respect to the global premium/discount variable, the results are as predicted by the theory, the only exceptions being the Brazil and Turkish Funds. Coefficients for all other funds are positive and very significant.

The cross-sectional regression results on a weekly basis are very weak. In most cases, the adjusted R^2 are zero and coefficient estimates are not significant. This is neither very surprising nor contrary to our theoretical model which states the equilibrium relationship between premium/discounts and the various independent variables. The postulated relationship should hold on average and not necessarily, week by week. Thus, we report the average values and summary measures of the time-series properties of coefficients ρ_{1t}, ρ_{2t} and ρ_{3t} below in Table III.

Table III. Determinants of Premiums/Discounts on NIFS. OLS Estimates

	ρ_{1i}	ρ_{2i}	ρ_{3i}
Mean	-0.0434	-0.0162	0.0001
Standard Deviation	0.1726	0.0307	0.0003
t statistic	-1.898	-3.983	2.517
Significance Level	0.062	0.001	0.014

The above result provides strong support to the predictions of the theoretical model. The spanning and substitution effects are negative and significant, whereas the size effect is positive and significant.

To summarize, the results of the time series regressions strongly support the theoretical prediction of a common NIF factor. The week results for the spanning and substitution effects need to be further studied based on better proxies and more powerful time series models. The results of cross-sectional regressions are very encouraging, even though a larger sample should strengthen the results. Finally, efforts to quantify some of the variables (e.g. access, taxation effects, political risk, asymmetric information and valuation) not included in the above tests should prove interesting and useful.

VI - CONCLUDING REMARKS

This paper has provided an empirical investigation of national index funds on the basis of the available data. The available data are quite limiting, both in time series and cross-sectional terms, but the results are, nonetheless, encouraging. The evidence suggests a

significant diversification benefit to US investors arising from NIFs, particularly those funds originating from countries with limited access to their local markets.

Further, the evidence supports the predictions of the companion theoretical paper with regard to the pricing of country funds, relative to their net asset values. Variables that proxy the degree of access and substitution effects show up as significant determinants of country fund premia/discounts. The support for the theoretical analysis is particularly useful, since the companion paper has advanced a number of welfare implications for emerging economies that originate country funds. The model suggests that country funds can enhance pricing efficiency in the local capital markets and promote local capital mobilization by firms at terms more favorable (lower costs of capital). Thus, we are encouraged that the policy implications drawn from the theoretical analysis for the promotion and support for country funds have an empirical basis.

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Table 1

LIST OF CLOSED-END COUNTRY FUNDS PUBLICLY TRADED IN NEW YORK

		Listed in Exchange	Inception of fund (initial offering)		Weeks trading thru 12/31/90
Emerging Stock Markets					
1	Brazil Fund	NYSE	March	1988	144
2	Chile Fund	NYSE	September	1989	66
3	Emerging Mexico Fund	NYSE	October	1990	13
4	First Philippine Fund	NYSE	November	1989	60
5	India Growth Fund	NYSE	August	1988	125
6	Indonesia Fund	NYSE	March	1990	44
7	Jakarta Growth Fund	NYSE	April	1990	38
8	Korea Fund	NYSE	August	1984	332
9	Malaysia Fund	NYSE	May	1987	191
10	Mexico Equity/Income Fund	NYSE	August	1990	20
11	Mexico Fund	NYSE	June	1981	500
12	Portugal Fund	NYSE	November	1989	61
13	R.O.C. Taiwan Fund	NYSE	May	1989	86
14	Singapore Fund	NYSE	July	1990	23
15	Taiwan Fund	NYSE	December	1986	211
16	Thai Capital Fund	NYSE	May	1990	32
17	Thai Fund	NYSE	February	1988	150
18	Turkish Investment Fund	NYSE	December	1989	57
Developed Stock Markets					
19	Austria Fund	NYSE	September	1989	67
20	Emerging Germany Fund	NYSE	March	1990	40
21	First Australia Fund	AMEX	December	1985	263
22	France Growth Fund	NYSE	May	1990	34
23	Future Germany Fund	NYSE	February	1990	44
24	Germany Fund	NYSE	July	1986	233
25	Growth Fund of Spain	NYSE	February	1990	46
26	Irish Investment Fund	NYSE	March	1990	40
27	Italy Fund	NYSE	February	1986	253
28	Japan OTC Equity Fund	NYSE	March	1990	42
29	New Germany Fund	NYSE	January	1990	49
30	Spain Fund	NYSE	June	1988	132
31	Swiss Helvetia Fund	NYSE	August	1987	176
32	United Kingdom Fund	NYSE	August	1987	178
Multi-Country Funds					
33	Alliance New Europe Fund	NYSE	March	1990	
34	Asia Pacific Fund	NYSE	April	1987	
35	Europe Fund	NYSE	April	1990	
36	First Iberian Fund	AMEX	April	1988	
37	G.T. Greater Europe Fund	NYSE	March	1990	
38	Latin America Invest Fund	NYSE	July	1990	
39	Pacific-European Growth Fund	AMEX	April	1990	
40	Scudder New Asia Fund	NYSE	June	1987	
41	Scudder New Europe Fund	NYSE	February	1990	
42	Templeton Emerging Markts	NYSE	February	1987	
43	Templeton Value Fund	NYSE	October	1988	
44	Worldwide Value Fund	NYSE	August	1986	

Notes: (a) NYSE = New York Stock Exchange - AMEX = American Stock Exchange
(b) Exact dates can be found in the IECDI database.
(c) Equal to the number of observations in the IECDI database.
(d) Listed in the AMEX until December 1988.

Table 2

CAPITALIZATION OF COUNTRY FUNDS (ORIGINAL SIZE AND MARKET VALUE AT END OF 1990)

		Initial Size (Mill.$)	Shares (Mill.)	Price ($/Sh.)	Value (Mill.$)
Emerging Stock Markets					
1	Brazil Fund	150.00	12.04	6.750	81.27
2	Chile Fund	80.50	5.37	15.500	83.29
3	Emerging Mexico Fund	60.00	5.01	9.000	45.08
4	First Philippine Fund	107.64	8.98	6.375	57.25
5	India Growth Fund	60.00	5.01	10.750	53.84
6	Indonesia Fund	69.00	4.61	10.000	46.07
7	Jakarta Growth Fund	60.00	5.01	6.750	33.81
8	Korea Fund	150.05	20.84	12.375	257.90
9	Malaysia Fund	87.00	7.26	11.000	79.85
10	Mexico Equity/Income Fund	72.00	6.01	9.875	59.34
11	Mexico Fund	134.60	19.72	12.625	248.97
12	Portugal Fund	79.35	5.30	9.375	49.66
13	R.O.C. Taiwan Fund	375.57	25.78	7.750	199.76
14	Singapore Fund	60.00	5.01	8.750	43.83
15	Taiwan Fund	81.92	4.07	21.250	86.49
16	Thai Capital Fund	72.00	6.01	6.750	40.56
17	Thai Fund	115.00	9.60	15.375	147.57
18	Turkish Investment Fund	84.00	7.02	6.750	47.41
Developed Stock Markets					
19	Austria Fund	111.50	8.26	10.000	82.59
20	Emerging Germany Fund	168.00	14.01	7.625	106.81
21	First Australia Fund	60.00	6.01	7.250	43.54
22	France Growth Fund	120.00	10.01	8.125	81.32
23	Future Germany Fund	243.00	13.51	11.500	155.32
24	Germany Fund	140.98	13.04	11.125	145.06
25	Growth Fund of Spain	216.00	18.00	8.000	144.00
26	Irish Investment Fund	60.00	5.01	6.750	33.81
27	Italy Fund	76.01	6.33	9.875	62.56
28	Japan OTC Equity Fund	102.00	8.51	8.250	70.20
29	New Germany Fund	431.25	28.76	11.375	327.11
30	Spain Fund	120.00	10.01	10.875	108.86
31	Swiss Helvetia Fund	120.00	8.01	11.875	95.08
32	United Kingdom Fund	48.00	4.01	9.000	36.07
Multi-Country Funds					
33	Alliance New Europe Fund	252.00	21.00	8.250	173.25
34	Asia Pacific Fund	86.50	8.66	10.000	86.60
35	Europe Fund	108.75	7.26	11.250	81.64
36	First Iberian Fund	65.00	6.51	7.750	50.46
37	G.T. Greater Europe Fund	240.00	16.00	9.250	148.00
38	Latin America Invest Fund	60.00	4.01	10.750	43.08
39	Pacific-European Growth Fund	36.00	3.00	8.000	24.00
40	Scudder New Asia Fund	84.00	7.03	12.125	85.24
41	Scudder New Europe Fund	200.00	16.00	8.375	134.00
42	Templeton Emerging Markts	115.00	11.52	13.125	151.20
43	Templeton Value Fund	170.00	17.30	7.375	127.57
44	Worldwide Value Fund	60.00	3.00	12.125	36.38

Table 3

WEEKLY PRICE RETURNS EXCLUDING DIVIDENDS : ARITHMETIC MEAN AND STANDARD DEVIATION IN PERCENTAGE

	Country Fund Name	Since Inception (a) Mean	Pr>D	Std D	Period 89/90 Mean	Pr>D	Std D		Year 1989 Mean	Pr>D	Std D		Year 1990 Mean	Pr>D	Std D	
1	Brazil	-0.27	0.01	6.82	0.13	0.02	7.37		1.24	0.15	7.54		-0.98	0.04	7.09	
2	Chile				0.06	0.04	6.96	b	-0.45	0.92	8.82	c	0.19	0.02	6.51	
3	Emerging Mexico				-0.11	0.47	5.05	b					-0.11	0.47	5.05	c
4	First Philippine				-1.06	0.02	6.50	b	1.23	0.90	15.03	c	-1.36	0.15	4.55	
5	India Growth	0.07	0.15	5.28	0.27	0.15	5.24		1.43	0.15	4.81		-0.89	0.15	5.43	
6	Indonesia				-0.91	0.41	6.58	b					-0.91	0.41	6.58	c
7	Jakarta Growth				-1.33	0.88	6.52	b					-1.33	0.88	6.52	c
8	Korea	0.50	0.01	6.32	-0.52	0.02	6.40		0.61	0.15	4.25		-1.65	0.01	7.94	
9	Malaysia	0.28	0.01	8.19	0.67	0.01	7.90		2.00	0.08	6.94		-0.67	0.02	8.61	
10	Mexico Equity/Income				-0.77	0.51	6.35	b					-0.77	0.51	6.35	c
11	Mexico	0.30	0.01	7.37	1.02	0.01	6.33		1.53	0.01	5.88		0.52	0.15	6.77	
12	Portugal				-0.70	0.01	6.12	b	0.79	0.26	2.48	c	-0.93	0.01	6.49	
13	R.O.C. Taiwan				-0.49	0.01	7.47	b	-0.21	0.01	6.13	c	-0.67	0.15	8.26	
14	Singapore				-1.28	0.78	5.52	b					-1.28	0.78	5.52	c
15	Taiwan	0.06	0.01	10.05	-0.10	0.01	8.64		0.77	0.13	5.35		-0.96	0.03	10.98	
16	Thai Capital				-1.85	0.22	5.45	b					-1.85	0.22	5.45	c
17	Thai	0.13	0.01	6.92	0.55	0.06	7.81		2.21	0.01	7.44		-1.11	0.02	7.88	
18	Turkish Investment				-0.83	0.15	6.44	b	0.40	0.29	13.21	c	-0.93	0.15	5.86	
19	Austria				0.10	0.01	10.14	b	4.32	0.97	14.46	c	-1.03	0.02	8.45	
20	Emerging Germany				-0.80	0.01	6.30	b					-0.80	0.01	6.30	c
21	First Australia	0.05	0.01	5.56	0.03	0.01	5.46		0.21	0.01	3.85		-0.16	0.01	6.73	
22	France Growth				-1.27	0.02	7.85	b					-1.27	0.02	7.85	c
23	Future Germany				-0.89	0.18	6.13	b					-0.89	0.18	6.13	c
24	Germany	0.29	0.01	7.04	0.77	0.01	9.32		2.24	0.01	9.54		-0.69	0.01	8.94	
25	Growth F. Spain				-0.88	0.49	5.09	b					-0.88	0.49	5.09	c
26	Irish Investment				-1.34	0.56	4.90	b					-1.34	0.56	4.90	c
27	Italy	0.12	0.01	6.24	0.40	0.01	6.53		1.23	0.01	5.14		-0.42	0.02	7.64	
28	Japan OTC Equity				-0.71	0.01	7.00	b					-0.71	0.01	7.00	c
29	New Germany				-1.35	0.08	6.37	b					-1.35	0.08	6.37	c
30	Spain	0.19	0.01	7.54	0.35	0.01	8.30		2.55	0.01	9.68		-1.86	0.05	5.94	
31	Swiss Helvetia	-0.02	0.01	4.54	0.29	0.02	4.24		0.96	0.01	4.19		-0.38	0.02	4.22	
32	United Kingdom	-0.03	0.01	5.00	0.05	0.01	4.27		0.32	0.01	3.38		-0.22	0.01	5.02	

Notes: (a) If fund is incepted before year 1989.
(b) Because inception occurs during year 1989 or 1990, parameter is estimated for less than 104 weeks.
(c) Because inception occurs during year 1989 or 1990, parameter is estimated for less than 52 weeks.

Table 4

WEEKLY PRICE RETURNS INCLUDING DIVIDENDS : ARITHMETIC MEAN AND STANDARD DEVIATION IN PERCENTAGE

	Country Fund Name	Since Inception (a) Mean	Pr>D	Std D	Period 89/90 Mean	Pr>D	Std D		Year 1989 Mean	Pr>D	Std D		Year 1990 Mean	Pr>D	Std D	
1	Brazil	-0.07	0.01	6.73	0.33	0.02	7.26		1.26	0.15	7.57		-1.44	0.01	11.69	
2	Chile				0.22	0.02	7.00	b	-0.25	0.82	9.11	c	0.34	0.03	6.47	
3	Emerging Mexico				0.15	0.65	4.49	b					0.15	0.65	4.49	c
4	First Philippine				-0.90	0.01	6.43	b	1.32	0.90	15.03	c	-1.20	0.15	4.43	
5	India Growth	0.15	0.15	5.34	0.34	0.15	5.29		1.55	0.15	4.95		-0.87	0.15	5.40	
6	Indonesia				-0.76	0.36	6.48	b					-0.76	0.36	6.48	c
7	Jakarta Growth				-1.28	0.86	6.50	b					-1.28	0.86	6.50	c
8	Korea	0.60	0.01	6.36	-0.37	0.02	6.60		0.72	0.15	4.31		-1.47	0.01	8.18	
9	Malaysia	0.32	0.01	8.22	0.69	0.01	7.89		2.02	0.07	6.97		-0.63	0.02	8.58	
10	Mexico Equity/Income				-0.48	0.31	6.22	b					-0.48	0.31	6.22	c
11	Mexico	0.42	0.01	7.41	1.11	0.01	6.37		1.65	0.02	5.91		0.57	0.15	6.81	
12	Portugal				-0.67	0.01	6.12	b	0.85	0.24	2.41	c	-0.90	0.01	6.49	
13	R.O.C. Taiwan				-0.42	0.01	7.45	b	-0.11	0.01	6.16	c	-0.62	0.12	8.22	
14	Singapore				-1.18	0.78	5.65	b					-1.18	0.78	5.65	c
15	Taiwan	1.01	0.01	9.70	0.46	0.01	7.97		1.21	0.07	5.00		-0.28	0.01	10.11	
16	Thai Capital				-1.85	0.22	5.45	b					-1.85	0.22	5.45	c
17	Thai	0.28	0.01	7.05	0.74	0.04	7.96		2.39	0.01	7.80		-0.90	0.03	7.86	
18	Turkish Investment				-0.83	0.15	6.45	b	4.77	0.28	13.29	c	-0.93	0.15	5.86	
19	Austria				0.17	0.01	10.13	b	4.36	0.97	14.51	c	-0.95	0.01	8.44	
20	Emerging Germany				-0.74	0.01	6.28	b					-0.74	0.01	6.28	c
21	First Australia	0.19	0.01	5.62	0.15	0.01	5.40		0.35	0.01	3.67		-0.05	0.01	6.73	
22	France Growth				-1.10	0.01	7.77	b					-1.10	0.01	7.77	c
23	Future Germany				-0.84	0.16	6.09	b					-0.84	0.16	6.09	c
24	Germany	0.39	0.01	7.02	0.81	0.01	9.34		2.28	0.01	9.59		-0.66	0.01	8.94	
25	Growth F. Spain				-0.79	0.49	5.14	b					-0.79	0.49	5.14	c
26	Irish Investment				-1.23	0.57	4.81	b					-1.23	0.57	4.81	c
27	Italy	0.24	0.01	6.40	0.51	0.01	6.45		1.25	0.01	5.14		-0.23	0.02	7.52	
28	Japan OTC Equity				-0.52	0.01	6.97	b					-0.52	0.01	6.97	c
29	New Germany				-1.30	0.11	6.42	b					-1.30	0.11	6.42	c
30	Spain	0.30	0.01	7.46	0.47	0.01	8.21		2.62	0.01	9.62		-1.69	0.09	5.83	
31	Swiss Helvetia	-0.02	0.01	4.53	0.29	0.02	4.23		0.96	0.01	4.19		-0.37	0.02	4.20	
32	United Kingdom	0.11	0.01	5.04	0.18	0.01	4.24		0.37	0.01	3.37		0.00	0.01	4.98	

Notes: (a) If fund is incepted before year 1989.
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(c) Because inception occurs during year 1989 or 1990, parameter is estimated for less than 52 weeks.

Table 5

WEEKLY RETURNS INCLUDING DIVIDENDS : GEOMETRIC MEAN IN PERCENTAGE

	Country Fund Name	Price Returns						NAV Returns					
		Incep.(a)	89/90		1989		1990	Incep.(a)	89/90		1989		1990
1	Brazil	-0.298	0.063		0.974		-0.840	-0.314	-0.587		0.746		-1.902
2	Chile		-0.019	b	-0.638	c	0.136		0.517	b	0.732	c	0.464
3	Emerging Mexico		0.056	b			0.056 c		0.464	b			0.464 c
4	First Philippine		-1.108	b	0.352	c	-1.303		-0.196	b	0.116	c	-0.238
5	India Growth	0.012	0.201		1.428		-1.011	0.265	0.208		0.513		0.096
6	Indonesia		-0.960	b			-0.960 c		-0.417	b			-0.417 c
7	Jakarta Growth		-1.492	b			-1.492 c		-0.566	b			-0.566 c
8	Korea	0.399	-0.586		0.631		-1.788	0.486	-0.123		0.509		-0.751
9	Malaysia	-0.014	0.393		1.789		-0.984	0.088	0.334		0.841		-0.171
10	Mexico Equity/Income		-0.668	b			-0.668 c		0.279	b			0.279 c
11	Mexico	0.144	0.911		1.489		0.337	0.201	0.740		0.996		0.484
12	Portugal		-0.858	b	0.825	c	-1.114		-0.367	b	0.112	c	-0.440
13	R.O.C. Taiwan		-0.695	b	-0.285	c	-0.954		-0.397	b	0.274	c	-0.821
14	Singapore		-1.327	b			-1.327 c		-0.033	b			-0.033 c
15	Taiwan	0.584	0.153		1.089		-0.774	0.756	0.151		1.038		-0.729
16	Thai Capital		-2.000	b			-2.000 c		-0.924	b			-0.924 c
17	Thai	0.046	0.448		2.118		-1.194	0.304	0.491		1.436		-0.445
18	Turkish Investment		-1.306	b	-0.188	c	-1.100		-0.500	b	4.468	c	-0.872
19	Austria		-0.313	b	3.409	c	-1.292		0.222	b	0.887	c	0.043
20	Emerging Germany		-0.926	b			-0.926 c		-0.317	b			-0.317 c
21	First Australia	0.028	0.015		0.288		-0.256	0.086	-0.121		0.069		-0.310
22	France Growth		-1.384	b			-1.384 c		-0.069	b			-0.069 c
23	Future Germany		-1.020	b			-1.020 c		-0.369	b			-0.369 c
24	Germany	0.164	0.415		1.863		-1.010	0.187	0.325		0.799		-0.146
25	Growth F. Spain		-0.919	b			-0.919 c		-0.123	b			-0.123 c
26	Irish Investment		-1.344	b			-1.344 c		-0.375	b			-0.375 c
27	Italy	0.034	0.304		1.127		-0.514	0.117	0.254		0.541		-0.033
28	Japan OTC Equity		-0.746	b			-0.746 c		-0.366	b			-0.366 c
29	New Germany		-1.500	b			-1.500 c		-0.147	b			-0.147 c
30	Spain	0.037	0.150		2.204		-1.863	0.106	0.095		0.533		-0.342
31	Swiss Helvetia	-0.120	0.206		0.873		-0.456	-0.030	0.177		0.331		0.024
32	United Kingdom	-0.025	0.098		0.315		-0.118	0.083	0.082		0.118		0.045

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(c) Because inception occurs during year 1989 or 1990, parameter is estimated for less than 52 weeks.

Table 6

TOTAL REINVESTED CUMULATIVE RETURNS IN PERCENTAGE

	Country Fund Name	Price Returns						NAV Returns					
		Incep.(a)	89/90		1989		1990	Incep.(a)	89/90		1989		1990
1	Brazil	-34.73	6.74		65.56		-35.52	-36.19	-45.79		47.17		-63.17
2	Chile		-1.24	b	-7.98	c	7.33		39.85	b	9.95	c	27.20
3	Emerging Mexico		0.67	b			0.67 c		5.71	b			5.71 c
4	First Philippine		-48.17	b	2.49	c	-49.43		-10.92	b	0.82	c	-11.64
5	India Growth	1.49	23.26		109.07		-41.04	38.76	24.08		30.46		-4.89
6	Indonesia		-33.95	b			-33.95 c		-19.52	b			-19.52 c
7	Jakarta Growth		-42.66	b			-42.66 c		-18.95	b			-18.95 c
8	Korea	273.05	-45.71		38.72		-60.86	398.16	-12.00		30.20		-32.41
9	Malaysia	-2.59	50.34		151.47		-40.21	18.27	41.44		54.58		-8.50
10	Mexico Equity/Income		-11.96	b			-11.. c		5.44	b			5.44 c
11	Mexico	105.54	156 89		115.64		19.13	172.52	115.17		67.39		28.54
12	Portugal		-40.37	b	6.80	c	-44.16		-19.78	b	0.90	c	-20.50
13	R.O.C. Taiwan		-44.72	b	-9.00	c	-39.25		-28.70	b	9.45	c	-34.85
14	Singapore		-25.47	b			-25.47 c		-0.73	b			-0.73 c
15	Taiwan	240.02	17.25		75.59		-33.22	386.05	16.94		71.09		-31.65
16	Thai Capital		-46.53	b			-46.53 c		-25.00	b			-25.00 c
17	Thai	7.17	59.19		197.36		-46.47	57.09	66.40		109.87		-20.71
18	Turkish Investment		-44.17	b	-0.75	c	-43.75		-24.47	b	19.11	c	-36.59
19	Austria		-18.69	b	59.89	c	-49.14		15.74	b	13.16	c	2.28
20	Emerging Germany		-30.44	b			-30.44 c		-11.65	b			-11.65 c
21	First Australia	7.67	1.61		16.11		-12.49	25.21	-11.83		3.64		-14.93
22	France Growth		-36.86	b			-36.86 c		-2.24	b			-2.24 c
23	Future Germany		-35.65	b			-35.65 c		-14.70	b			-14.70 c
24	Germany	46.17	53.90		161.17		-41.07	54.18	40.19		51.26		-7.32
25	Growth F. Spain		-33.99	b			-33.99 c		-5.39	b			-5.39 c
26	Irish Investment		-41.00	b			-41.00 c		-13.63	b			-13.63 c
27	Italy	8.97	37.05		79.13		-23.49	34.21	30.14		32.38		-1.69
28	Japan OTC Equity		-26.44	b			-26.44 c		-13.96	b			-13.96 c
29	New Germany		-51.61	b			-51.61 c		-6.82	b			-6.82 c
30	Spain	4.98	16.84		210.66		-62.39	14.88	10.37		31.87		-16.30
31	Swiss Helvetia	-18.96	23.92		57.14		-21.14	-5.11	20.22		18.74		1.24
32	United Kingdom	-4.32	10.74		17.75		-5.95	15.81	8.85		6.35		2.36

Notes: (a) If fund is incepted before year 1989.
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Table 7

LOCAL STOCK INDEXES IN US$: WEEKLY PRICE RETURNS WITHOUT DIVIDENDS (ARITHMETIC MEAN & STD DEV IN %)

	Country	Index	Period 89/90				Year 1989				Year 1990			
			Mean	Pr>D	Std D		Mean	Pr>D	Std D		Mean	Pr>D	Std D	
1	Brazil	Bovespa (1968=0.0001)	-0.15	0.14	12.54		1.07	0.04	11.30		-1.37	0.15	13.67	
2	Chile	IGPA (1/80=100)	0.80	0.01	3.35	b	1.43	0.47	3.92	c	0.64	0.02	3.22	
3	India	FE Bombay (1979=100)	0.35	0.15	3.47		0.30	0.15	2.73		0.41	0.15	4.10	
4	Indonesia	JSE Comp (10/82=100)									-0.56	0.40	4.63	c
	Since 4/10/90										-1.40	0.34	4.14	c
5	Korea	KSE Comp (1980=100)	-0.26	0.15	2.92		0.06	0.15	2.52		-0.57	0.04	3.27	
6	Malaysia	KLSE Comp (1/77=100)	0.38	0.01	3.30		0.91	0.01	2.37		-0.16	0.01	3.97	
7	Mexico	BMV Gral (11/78=781.6)	0.85	0.15	3.52		1.02	0.15	3.17		0.68	0.14	3.86	
	Since 8/14/90										0.06	0.27	4.68	c
	Since 10/90										1.05	0.60	2.95	c
8	Philippines	Manila Co/In (1/58=100	-1.40	0.01	6.79	b	-2.65	0 02	10.49	c	-1.24	0.04	6.26	
9	Portugal	Banco Tota/Aco (77=100)	-0.50	0.01	2.82	b	0.21	0.35	1.32	c	-0.51	0.01	2.98	
10	Singapore	Strait Times (1964=100)									-1.09	0.39	5.26	c
11	Taiwan	TSE Average (1966=100)	0.29	0.15	8.41		1.53	0.15	5.70		-0.96	0.15	10.35	
	Since 5/12/89		-0.37	0.15	8.87	b	0.55	0.74	5.87	c	-0.96	0.15	10.35	
12	Thailand	SET Index (4/30/75=100)	0.60	0.01	5.57		1.58	0.15	2.16		-0.39	0.01	7.48	
	Since 5/22/90										-1.02	0.10	9.17	c
13	Turkey	ISE Index (1/86=100)	1.23	0.15	9.77	b	7.61	0.99	5.95	c	0.74	0.15	9.87	
14	Australia	All Ordinary Shares	-0.22	0.01	2.33		0.08	0.01	2.51		-0.51	0.15	2.12	
15	Austria	CA-Share Index (Atkien)	0.55	0.15	6.19	b	1.80	0.46	5.54	c	0.21	0.13	6.36	
16	France	CAC General Index									-0.58	0.35	3.25	c
17	Germany	FAZ Aktien(12/31/58=100)	0.30	0.08	3.18		0.70	0.13	2.46		-0.09	0.13	3.75	
	Since 1/24/90										-0.14	0.29	3.74	c
	Since 2/27/90										-0.14	0.27	3.76	c
	Since 3/29/90										-0.43	0.32	3.82	c
18	Ireland	IESMISEQ									-0.64	0.42	2.95	c
19	Italy	Banca Com Ital (72=100)	0.04	0.01	2.66		0.39	0.01	2.13		-0.31	0.04	3.07	
20	Japan	Nikkei Avg (1/4/68=100)									-0.31	0.83	5.62	c
21	Spain	Madrid G (12/30/85=100)	0.01	0.04	2.92		0.23	0.15	1.89		-0.22	0.15	3.68	
	Since 2/14/90										-0.18	0.68	3.87	c
22	Switzerland	Swiss Bank Corporation	0.11	0.15	2.49		0.29	0.15	2.24		-0.06	0.15	2.72	
23	United Kingdom	FT 100 (4/10/62)	0.27	0.12	2.58		0.37	0.15	2.19		0.16	0.15	2.94	
24	United States	S&P500 Comp (41-43=100)	0.18	0.01	2.05		0.48	0.01	1.86		-0.12	0.15	2.19	

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Table 8

CORRELATION COEFFICIENTS FOR PRICE AND NAV RETURNS EXCLUDING DIVIDENDS - PERIOD 1989-1990

-	Country Fund Name		Price Returns vs. NAV Return	Price Returns versus			NAV Returns versus		
				Loc Mkt.	IFC Indx	S&P500	Loc Mkt.	IFC Indx	S&P500
1	Brazil		0.3006	0.2749	0.2836	0.2098	0.8626	0.8421	0.0630
2	Chile	b	0.3232	0.3042	0.2079	0.3912	0.5486	0.6427	0.0812
3	Emerging Mexico	b	0.5366	0.3889	0.4065	-0.1305	0.6879	0.7228	-0.0833
4	First Philippine	b	0.2907	0.2793	0.2143	0.1703	0.5671	0.5174	0.1538
5	India Growth		0.1790	0.2167	0.1792	0.2032	0.5880	0.6391	-0.1610
6	Indonesia	b	0.5838	0.4974	N.C.	0.3604	0.6019	N.C.	0.2509
7	Jakarta Growth	b	0.2838	0.4120	N.C.	0.3126	0.8021	N.C.	0.0141
8	Korea		0.5020	0.5434	0.5766	0.2397	0.7254	0.6518	0.0314
9	Malaysia		0.3935	0.3818	0.3966	0.3289	0.9775	0.9606	0.2795
10	Mexico Equity/Income	b	0.2135	0.3263	0.3804	0.4523	0.1944	0.1987	-0.1199
11	Mexico		0.5911	0.5828	0.5450	0.5216	0.9203	0.8039	0.4990
12	Portugal	b	0.6179	0.5969	0.5378	0.4768	0.8302	0.8147	0.3748
13	R.O.C. Taiwan	b	0.6058	0.5326	0.5531	0.3110	0.9040	0.8057	0.0374
14	Singapore	b	0.1209	0.2346	N.C.	0.4021	0.7165	N.C.	0.5142
15	Taiwan		0.2207	0.3647	0.4104	0.3203	0.4912	0.4138	0.0257
16	Thai Capital	b	0.5634	0.5112	0.5519	0.3836	0.9745	0.9709	0.4481
17	Thai		0.3332	0.4029	0.3660	0.2824	0.9003	0.9132	0.2880
18	Turkish Investment	b	0.5008	0.6009	0.5061	0.0063	0.9314	0.9222	0.2008
19	Austria	b	0.2582	0.2975	N.C.	0.3546	0.9218	N.C.	0.2565
20	Emerging Germany	b	0.7086	0.7941	N.C.	0.3963	0.9602	N.C.	0.3280
21	First Australia		0.3557	0.2928	N.C.	0.1563	0.7235	N.C.	0.3033
22	France Growth	b	0.4054	0.6112	N.C.	0.4525	0.7696	N.C.	0.1284
23	Future Germany	b	0.6426	0.7289	N.C.	0.3879	0.8547	N.C.	0.1421
24	Germany		-0.0387	0.4012	N.C.	0.2164	0.6294	N.C.	-0.1017
25	Growth F. Spain	b	0.7175	0.7612	N.C.	0.4083	0.9595	N.C.	0.5468
26	Irish Investment	b	0.4040	0.3560	N.C.	0.5680	0.9126	N.C.	0.2633
27	Italy		0.4302	0.4673	N.C.	0.3990	0.8727	N.C.	0.4059
28	Japan OTC Equity	b	0.3835	0.4147	N.C.	0.4343	0.7747	N.C.	0.3463
29	New Germany	b	0.4038	0.4924	N.C.	0.2265	0.8371	N.C.	0.3845
30	Spain		0.3096	0.2604	N.C.	0.3795	0.8776	N.C.	0.2488
31	Swiss Helvetia		0.5322	0.5241	N.C.	0.4376	0.9784	N.C.	0.3582
32	United Kingdom		0.5641	0.6268	N.C.	0.4909	0.8283	N.C.	0.3495

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Table 9

SYSTEMATIC & UNSYSTEMATIC RISKS AS PROPORTIONS OF PRICE RETURNS VARIANCE - PERIOD 1989-1990

	Country Fund Name		Variance of Price Returns	MODEL 1 Sys Risk	MODEL 1 Uns Risk	MODEL 1 Total	MODEL 2 Sys Risk	MODEL 2 Uns Risk	MODEL 2 Total
1	Brazil		0.0054311	7.56%	92.44%	100%	4.41%	95.59%	100%
2	Chile	b	0.0048464	9.26%	90.74%	100%	15.37%	84.63%	100%
3	Emerging Mexico	b	0.0025511	15.16%	84.84%	100%	1.70%	98.30%	100%
4	First Philippine	b	0.0042314	7.80%	92.20%	100%	2.87%	97.13%	100%
5	India Growth		0.0027422	4.70%	95.30%	100%	4.17%	95.83%	100%
6	Indonesia	b	0.0043279	24.74%	75.26%	100%	13.00%	87.00%	100%
7	Jakarta Growth	b	0.0042520	16.98%	83.02%	100%	9.80%	90.20%	100%
8	Korea		0.0041461	29.42%	70.58%	100%	5.75%	94.25%	100%
9	Malaysia		0.0062388	14.58%	85.42%	100%	10.83%	89.17%	100%
10	Mexico Equity/Income	b	0.0040372	10.65%	89.35%	100%	20.45%	79.55%	100%
11	Mexico		0.0040085	33.97%	66.03%	100%	27.23%	72.77%	100%
12	Portugal	b	0.0037457	35.77%	64.23%	100%	22.90%	77.10%	100%
13	R.O.C. Taiwan	b	0.0055830	28.36%	71.64%	100%	9.69%	90.31%	100%
14	Singapore	b	0.0030451	5.50%	94.50%	100%	16.23%	83.77%	100%
15	Taiwan		0.0074608	13.30%	86.70%	100%	10.26%	89.74%	100%
16	Thai Capital	b	0.0029686	26.14%	73.86%	100%	14.67%	85.33%	100%
17	Thai		0.0060984	16.23%	83.77%	100%	7.99%	92.01%	100%
18	Turkish Investment	b	0.0041453	36.10%	63.90%	100%	0.00%	100.00%	100%
19	Austria	b	0.0102785	8.85%	91.15%	100%	12.46%	87.54%	100%
20	Emerging Germany	b	0.0039628	63.05%	36.95%	100%	15.84%	84.16%	100%
21	First Australia		0.0029779	8.54%	91.46%	100%	2.45%	97.55%	100%
22	France Growth	b	0.0061676	37.36%	62.64%	100%	20.35%	79.65%	100%
23	Future Germany	b	0.0037624	53.13%	46.87%	100%	15.06%	84.94%	100%
24	Germany		0.0086809	16.10%	83.90%	100%	4.73%	95.27%	100%
25	Growth F. Spain	b	0.0025876	57.94%	42.06%	100%	16.61%	83.39%	100%
26	Irish Investment	b	0.0023971	12.69%	87.31%	100%	32.53%	67.47%	100%
27	Italy		0.0042637	21.99%	78.01%	100%	16.00%	84.00%	100%
28	Japan OTC Equity	b	0.0049003	17.20%	82.80%	100%	18.98%	81.02%	100%
29	New Germany	b	0.0040613	24.24%	75.76%	100%	5.16%	94.84%	100%
30	Spain		0.0068813	6.40%	93.60%	100%	18.67%	81.33%	100%
31	Swiss Helvetia		0.0017958	27.56%	72.44%	100%	19.37%	80.63%	100%
32	United Kingdom		0.0018204	39.50%	60.50%	100%	24.14%	75.86%	100%

Notes: (b) Because inception occurs during year 1989 or 1990, parameter is estimated for less than 104 weeks.

Table 10	Country Funds: Comparative Volatilities						
(Period: Since Fund Inception Until 06/28/91)							
OBS	*Fund*	*STO Deviation Price Returns*	*STD Deviation NAV Returns*	*STD Deviation MKT Returns*	*Ratio*	*Ratio*	*Ratio*
		(1)	(2)	(3)	(1)/(2)	(1)/(3)	(2)/(3)
1	Singapore Fund	0.0459842	0.0106574	0.039639	4.31477	1.16009	0.26886
2	First Philippine Fund	0.0608341	0.0149597	0.066033	4.06654	0.82127	0.22655
3	Mexico Equity/Income Fund	0.0476027	0.0140794	0.039463	3.38101	1.20626	0.35678
4	Jakarta Growth Fund	0.0622949	0.0185163	0.038196	3.36433	1.63094	0.48477
5	France Growth Fund	0.0647729	0.0216454	0.030433	2.99245	2.12835	0.71124
6	Portugal Fund	0.5900491	0.0220324	0.029354	2.60905	2.01162	0.77102
7	Spain Fund	0.0738364	0.0286853	0.027813	2.57401	2.65472	1.03136
8	Malaysia Fund	0.0628551	0.0248707	0.040010	2.52727	1.57098	0.62161
9	Malaysia Fund	0.0791697	0.0321039	0.038496	2.46605	2.05659	0.83396
10	Chile Fund	0.0638540	0.0272545	0.034339	2.34288	1.85953	0.79370
11	Italy Fund	0.0610389	0.0280369	0.034366	2.17709	1.77613	0.81583
12	Emergind Mexico Fund	0.0548820	0.0267346	0.030923	2.05284	1.77480	0.86456
13	Korea Fund	0.0615942	0.0301289	0.031360	2.04436	1.96409	0.96074
14	New Germany Fund	0.0621019	0.0308592	0.036176	2.01242	1.71666	0.85303
15	Austria Fund	0.0881553	0.0455913	0.056396	1.93360	1.56316	0.80842
16	Emerging Germany Fund	0.0595368	0.0312380	0.036536	1.90591	1.62952	0.85498
17	Irish Investment Fund	0.00.08474	0.0238172	0.029734	1.88298	1.50827	0.80100
18	Swiss Helvetia Fund	0.0442271	0.0240356	0.026437	1.84007	1.67290	0.90915
19	Japan OTC Equity Fund	0.0798827	0.0434208	0.046979	1.83973	1.70037	0.92425
20	United Kingdom Fund	0.0491958	0.0268796	0.029079	1.83023	1.69177	0.92435
21	Germany Fund	0.0692195	0.0380740	0.030568	1.81803	2.26441	1.24553
22	Future Germany Fund	0.0578084	0.0324509	0.036171	1.78141	1.59821	0.89716
23	First Australia Fund	0.0537279	0.0313747	0.024834	1.71246	2.16352	1.26340
24	Growth Fund of Spain	0.0467491	0.0273317	0.035770	1.71043	1.30693	0.76409
25	Thai Fund	0.067303	0.0417380	0.046891	1.61251	1.43530	0.89010
26	India Growth Fund	0.0511082	0.0321037	0.035580	1.59197	1.43722	0.90279
27	Thai Capital Fund	0.0708192	0.0450254	0.073010	1.57287	0.96999	0.61670
28	Taiwan Fund	0.0964076	0.0633112	0.075332	1.52276	1.27978	0.84043
29	Roc Taiwan Fund	0.0720099	0.0525485	0.084309	137035	0.85412	0.62329
30	Mexico Fund	0.0728115	0.0558739	0.064383	1.30314	1.13091	0.86783
31	Turkish Fund	0.0721610	0.0731441	0.093552	0.98656	0.77135	0.78185
32	Brazil Fund	0.0741052	0.0824737	0.111304	0.89853	0.66579	0.74098
Note: Funds sorted by Descending Ratio (1)/(2)							

TABLE 11a : Relative Importance of Domestic U.S. and Global Fund Factors - Developed

				F Significance of Domestic U.S. and Global Fund Factors								
Developed Markets	*#1*	*#1 F*	*#2*	*#2 F*	*#3*	*#3 F*	*#4*	*#4 F*	*#5*	*#5 F*	*#6*	*#6 F*
	Calculated	*Significance*	*Calculated*	*Significance*	*Calculated*	*Significance*	*Calculated*	Significance	Calculated	Significance	Calculated	Significance
	F-Value	*Level*	*F-Value*	*Level*	*F-Value*	*Value*	*F-Value*	Level	F-Value	Level	F-Value	Level
Austria Fund	90412	0.0034	4.6539	0.0037	0.0298	0.8633	1.3131	0.2549	0.0138	0.9863	0.6482	0.5255
Emerging Germany	2.763	0.1015	58.6264	0	5.6486	0.0185	11.3553	0.0012	2.0779	0.134	4.818	0.0114
France Growth Fund	2.6857	0.1069	17.04	0.0001	0.4255	0.5169	3.6331	0.0618	0.1415	0.8684	1.7128	0.1898
First Australia Fund	2.9383	0.0889	8.6622	0.0039	0.2586	0.612	3.767	0.0545	0.1616	0.851	1.9029	0.1534
Future Germany Fund	7.0494	0.0099	35.0906	0	2.9645	0.0898	4.3842	0.0401	1.3067	0.3777	2.0027	0.1432
German Fund	2.6443	0.1064	21.7097	0	1.3072	0.2551	0.25626	0.1119	0.7599	0.4717	1.5797	0.2534
Growth Fund of Spain	2.8443	0.0963	41.0398	0	0.1188	0.7314	17.68	0.0001	0.1641	0.849	8.8427	0.0004
Irish Investment Fund	14.2924	0.0004	3.2894	0.0746	2.8404	0.0969	0.2543	0.6158	1.338	0.27	0.0682	0.9341
Italy Fund	5.8462	0.0174	13.9319	0.0003	4.4483	0.0074	13.3873	0.0004	0.497	0.6099	4.8735	0.0096
Japan OTC Equity Fund	11.0222	0.0015	4.7488	0.033	2.1377	0.1486	0.1241	0.7258	1.0126	0.5691	0.0227	0.9776
New Germany Fund	3.2066	0.0776	19.4947	0	0.6277	0.4308	2.6789	0.1061	0.3273	0.722	1.3589	0.2688
Spain Fund	20.12	0	2.0681	0.1529	7.8903	0.0058	0.049	0.8342	3.94	0.0219	0.0462	0.9549
Swiss Helvesia Fund	114.0255	0.0003	24.9088	0	0.544	0.0025	21.2807	0	2.4271	0.0924	8.0509	0.0005
United Kingdom Fund	14.0595	0.0003	44.6196	0	11.6432	0.0009	36.3809	0	2.854	0.0615	14.6041	0
Percent Significant (At 5% Level)		57.14%		85.71%		35.71%		42.86%		7.14%		35.71%

TABLE 11b : Relative Importance of Domestic U.S. and Global Fund Factors

				F Significance Level for Various Hypotheses Tested								
Emerging Markets	*#1*	*#1 F*	*#2 F*	*#2 F*	*#3*	*#3 F*	*#4*	*#4 F*	*#5*	*#5 F*	*#6*	*#6 F*
	Calculated	*Significance*	*Calculated*	*Significance*	*Calculated*	*Significance*	*Calculated*	Significance	Calculated	ignificance	Calculated	Significance
	F-Value	*Level*	*F-Value*	*Level*	*F-Value*	*Value*	*F- Value*	Level	F-Value	Level	F-Value	Level
Brazil Fund	5.9215	0.0163	12.8648	0.0003	0.7202	0.3977	9.5304	0.0025	0.4255	0.6544	4.8006	0.0098
Chile Fund	15.9348	0.0001	9.4936	0.0028	2.7837	0.1988	11.3872	0.0011	1.2058	0.3044	5.4423	0.0059
Emerging Mexico Fund	0.2859	0.5962	7.294	0.0106	4.8049	0.0351	2.4724	0.1249	2.4704	0.0996	1.3295	0.278
First Philippine Fund	2.1323	0.148	7.4145	0.0079	0.105	0.7467	5.3652	0.023	0	1	2.5947	0.0809
India Growth Fund	4.9202	0.0288	5.5533	0.0204	1.6001	0.2088	6.7015	0.111	0.8641	0.4246	3.3931	0.0075
Indonesia Fund	8.7894	0.0042	12.9661	0.0006	0.1419	0.7076	10.4109	0.002	0.062	0.9399	5.1174	0.0086
Jakarta Growth Fund	6.3163	0.0147	14.6491	0.0003	2.0044	0.162	8.1646	0.0059	0.7191	0.4914	3.7213	0.0301
Korea Fund	4.5532	0.0347	40.4165	0	3.5235	0.0628	20.6325	0	1.7098	0.1851	10.1971	0.0001
The Malaysia Fund	13.933	0.0003	11.9677	0.0007	2.1539	0.1447	2.9535	0.0881	0.8545	0.4279	1.2498	0.2901
Mexico Equity and Income	1.9158	0.1736	5.7449	0.0597	0.11[illegible]	0.734	0.7281	0.3983	0.0471	0.954	0.3453	0.71
The Mexico Fund	11.5277	0.001	23.0433	0	12.4533	0.0006	26.6071	0	1.8047	0.1698	8.2778	0.0003
Portugal Fund Inc.	5.2559	0.0244	17.5971	0.0001	3.6799	0.0585	7.7186	0.0068	0.9673	0.3844	2.9227	0.0594
ROC Taiwan Fund	14.0325	0.0003	56.3208	0	0.0041	0.9491	23.9095	0	0.0023	0.9975	11.8446	0
Singapore Fund	3.2389	0.0878	0.6768	0.4209	3.2141	0.0889	0.0876	0.7705	1.5886	0.2315	0.0983	0.5069
Twain Fund	7.9985	0.0056	11.8249	0.0009	0.1606	0.6899	4.0281	0.0474	0.059	0.9427	1.9729	0.1444
The Thai Fund	8.4961	0.0052	5.7661	0.0198	0.5626	0.4565	0.1934	0.6619	0.2749	0.7607	0.1937	0.9107
Thai Capital Fund	8.6626	0.0039	18.2093	0	0.8874	0.348	5.9928	0.0157	0.289	0.7495	2.8156	0.0636
Turkish Investment Fund	0.062	0.804	58.7928	0	0.7162	0.4	27.7017	0	0.5574	0.575	13.9484	0
Personal Significance (At 5% Level)		72.22%		88.89%		11.11%		72.22%		0.00%		50.00%

TABLE 11c : Relative Importance of Domestic U.S. and Global Fund Factors -Developed												
				F significance Levels for Various Hypotheses Tested								
Developed Markets	*#1*	*#1 F*	*#2*	*#2 F*	*#3*	*#3 F*	*#4 F*	#4 F	#5	#5 F	#6	#6 F
	Calculated	*Significance*	*Calculated*	*Significance*	*Calculated*	*Significance*	*Calculated*	Significance	Calculated	Significance	Calculated	Significance
	F-Value	*Level*	*F-Value*	*Level*	*F-Value*	*Level*	*F-Value*	Level	F-Value	Level	F-Value	Level
Austria Fund	90412	0.0034	4.6539	0.0037	0	1	1.041	0.3104	0.0089	0.9911	0.5237	0.5942
Emerging Germany	2.763	0.1015	58.6264	0	1.9329	0.1694	9.1766	0.0036	0.4544	0.637	3.9615	0.0241
France Growth Fund	2.6857	0.1069	17.04	0.0001	0.0046	0.9462	3.6084	0.0626	0.0012	0.9988	1.7709	0.1797
First Australia Fund	2.9383	0.0889	8.6622	0.0039	0.3739	0.342	4.766	0.0309	0.3144	0.7308	2.4976	0.0863
Future Germany Fund	7.0494	0.0099	35.0906	0	4.5549	0.0365	0.2631	0.6097	2.1631	0.1232	0.0546	0.9469
German Fund	2.6443	0.1064	21.7097	0	4.5852	0.0342	0.1179	0.7319	2.372	0.0974	0.1526	0.8586
Growth Fund of Spain	2.8443	0.0963	41.0398	0	1.2488	0.2677	16.5723	0.0001	0.1563	0.8356	7.6038	0.0011
Irish Investment Fund	14.2924	0.0004	3.2894	0.0746	3.8746	0.0535	0.4554	0.6948	1.8545	0.1652	0.0278	0.9726
Italy Fund	5.8462	0.0174	13.9319	0.0003	10.7775	0.0014	19.4545	0	1.3292	0.2217	5.5293	0.0053
Japan OTC Equity Fund	11.0222	0.0015	4.7488	0.033	1.6785	0.1998	0.0326	0.8573	0.8779	0.4207	0.0665	0.9494
New Germany Fund	3.2066	0.0776	19.4947	0	2.9799	0.0687	0.115	0.7058	1.4642	0.2383	0.052	0.621
Spain Fund	20.12	0	2.0681	0.1529	4.492	0.036	0.1431	0.0002	2.6495	0.746	0.4783	0.007
Swiss Helvetia Fund	114.0255	0.0003	24.9088	0	8.7128	0.0038	14.557	0	2.3489	0.0996	5.163	0
United Kingdom Fund	14.0595	0.0003	44.6196	0	15.104	0.0002	42.261	0	3.2419	0.0424	15.9012	
Percent Significant (At 5% Level)		57.14%		85.71%		42.86%		42.86%		7.14%		35.71%

TABLE 11d : Relative Importance of Domestic U.S. and Global Fund Factors -Emerging

				F Significance Level for Various Hypotheses Tested								
Emerging Markets	*#1*	*#1 F*	*#2*	*#2 F*	*#3*	*#3 F*	*#4 F*	*#4 F*	*#5*	*#5 F*	*#6*	*#6 F*
	Calculated	*Significance*	*Calculated*	*Significance*	*Calculated*	*Significance*	*Calculated*	*Significance*	*Calculated*	*Significance*	*Calculated*	*Significance*
	F-Value	*Level*	*F-Value*	*Level*	*F-Value*	*Value*	*Level*	*Value*	*F-Value*	*Level*	*F-Value*	*Level*
Brazil Fund	5.9215	0.0163	12.8648	0.0005	1.2956	0.2572	9.2666	0.0028	0.7578	0.4802	4.6979	0.0108
Chile Fund	15.9348	0.0001	9.4936	0.0028	4.2352	0.0426	9.2558	0.0031	2.1115	0.1272	4.5942	0.0127
Emerging Mexico Fund	0.2859	0.5962	7.294	0.0106	3.5411	0.0682	2.0537	0.1607	1.8236	0.1769	10.971	0.3454
First Philippine Fund	2.1323	0.148	7.4145	0.0079	0.1692	0.6819	4.8218	0.0309	0.0106	0.9895	2.3044	0.1063
India Growth Fund	4.9202	0.0288	5.5533	0.0204	1.0784	0.3015	7.005	0.0094	0.5499	0.5787	3.4848	0.0344
Indonesia Fund	8.7894	0.0042	12.9661	0.0006	0.0267	0.6707	6.6441	0.0045	0.0016	0.9984	4.2436	0.0185
Jakarta Growth Fund	6.3163	0.0147	14.6491	0.0003	1.2374	0.2704	5.8191	0.0189	0.3512	0.7053	2.5647	0.0839
Korea Fund	4.5532	0.0347	40.4165	0	3.0901	0.0812	13.6086	0	1.3891	0.2531	6.5953	0.0019
The Malaysia Fund	13.933	0.0003	11.9677	0.0007	3.1419	0.0787	1.5878	0.21	1.3555	0.2616	0.5869	0.5576
Mexico Equity and Income	1.9158	0.1736	5.7449	0.0597	0.0035	0.8519	0.1452	0.7051	0.0162	0.9839	0.0698	0.9327
The Mexico Fund	11.5277	0.001	23.0433	0	8.0555	0.0035	21.4213	0	1.0554	0.3519	7.3127	0.0011
Portugal Fund Inc.	5.2559	0.0244	17.5971	0.0001	4.4487	0.0668	7.2127	0.0087	0.8766	0.4201	2.7	0.0732
ROC Taiwan Fund	14.0325	0.0003	56.3208	0	0	1	16.1106	0.0001	0.0117	0.9884	7.9942	0.0006
Singapore Fund	3.2389	0.0878	0.6768	0.4209	2.8178	0.1096	0.001	0.9751	1.4261	0.2661	0.08	0.9234
Twain Fund	7.9985	0.0056	11.8249	0.0009	0.0875	0.768	1.5353	0.2182	0.0347	0.9659	0.7513	0.4744
The Thai Fund	8.4961	0.0052	5.7661	0.0198	1.1605	0.2821	0.051	0.8222	0.5862	0.56	0.0316	0.9687
Thai Capital Fund	8.6626	0.0039	18.2093	0	1.7897	0.1834	3.9477	0.0491	0.7193	0.4891	1.787	0.1717
Turkish Investment Fund	0.062	0.804	58.7928	0	0.3287	0.3681	29.6104	0	0.306	0.7373	14.8146	0
Personal Significance (At 5% Level)		72.22%		88.89%		11.11%		66.67%		0.00%		44.44%

TABLE 12
Initial and After Market Returns (%)
(Arranged by Date of Issue)

Emerging Markets	Initial Return	After Market Return
Mexico	1.04	-29.90
Korea	12.50	10.19
Taiwan	14.58	137.27
Malaysia	1.04	24.74
Thailand	48.96	-10.49
Brazil	12.00	-36.60
India	-2.08	-27.66
ROC Taiwan	2.23	5.04
Chile	15.83	-8.12
Portugal	6.67	1.56
First Philippines	12.50	-4.04
Turkey	1.04	1.03
Indonesia	8.33	-1.54
Jakarta	0.00	-3.12
Thai Capital	5.21	-32.67
Singapore	0.00	-25.00
Mexico Equity/Income	-1.04	-23.16
Emerging Mexico	-22.92	4.05
Average (EM)	6.44	-1.02
Developed Markets		
Australia	-3.75	20.78
Italy	0.00	7.29
Germany	-2.50	1.28
U.K.	-4.00	-43.75
Helvetia	-1.67	-37.29
Spain	0.00	-19.79
Austria	7.29	20.89
New Germany	60.00	-45.83
Growth Spain	5.21	-14.85
Future Germany	1.39	-18.49
Japan OTC Equity	1.04	18.56
Emerging Germany	-6.25	-12.23
Irish Investment	0.00	-20.83
France Growth	13.54	-34.86
Average (DM)	5.02	-12.79

Table 13

AVERAGE WEEKLY PREMIUMS (DISCOUNTS) : MEAN AND STANDARD DEVIATION IN PERCENTAGE

	Country Fund Name	Since Inception (a) Mean	Std D	Period 89/90 Mean	Std D		Year 1989 Mean	Std D		Year 1990 Mean	Std D	
1	Brazil	-23.51	20.73	-23.90	23.52		-42.95	6.35		-4.84	18.35	
2	Chile			2.26	14.81	b	10.68	9.89	c	-0.31	14.84	
3	Emerging Mexico			-15.52	3.15	b				-15.52	3.15	c
4	First Philippine			-8.00	22.20	b	26.98	16.98	c	-13.30	17.93	
5	India Growth	-2.80	20.69	0.60	20.62		-5.23	18.43		6.42	21.20	
6	Indonesia			-0.64	11.45	b				-0.64	11.45	c
7	Jakarta Growth			-4.74	16.52	b				-4.74	16.52	c
8	Korea	60.52	34.15	65.47	31.02		91.29	14.93		39.65	19.01	
9	Malaysia	-0.13	20.52	3.58	20.17		-4.86	15.57		12.01	20.84	
10	Mexico Equity/Income			-12.44	9.71	b				-12.44	9.71	c
11	Mexico	-7.26	35.80	-10.11	9.54		-16.09	7.15		-4.13	7.73	
12	Portugal			-0.77	17.49	b	18.33	2.27	c	-4.03	16.89	
13	R.O.C. Taiwan			-4.99	13.26	b	1.82	14.18	c	-9.60	10.52	
14	Singapore			-15.71	9.26	b				-15.71	9.26	c
15	Taiwan	37.45	46.41	14.18	16.71		7.04	13.76		21.33	16.44	
16	Thai Capital			-8.65	10.77	b				-8.65	10.77	c
17	Thai	25.83	19.80	23.85	20.55		27.90	12.94		19.79	25.53	
18	Turkish Investment			-20.52	7.83	b	-10.81	5.09	c	-21.86	6.12	
19	Austria			2.98	28.08	b	22.98	17.33	c	-2.70	28.23	
20	Emerging Germany			-14.70	6.23	b				-14.70	6.23	c
21	First Australia	-14.28	9.46	-14.82	9.34		-19.06	5.87		-10.58	10.25	
22	France Growth			-12.61	12.47	b				-12.61	12.47	c
23	Future Germany			-13.03	6.59	b				-13.03	6.59	c
24	Germany	1.77	17.65	8.86	23.87		-1.04	18.67		18.76	24.55	
25	Growth F. Spain			-15.50	8.54	b				-15.50	8.54	c
26	Irish Investment			-19.43	9.14	b				-19.43	9.14	c
27	Italy	-11.97	13.46	-8.64	14.27		-11.57	9.67		-5.71	17.33	
28	Japan OTC Equity			0.93	19.55	b				0.93	19.55	c
29	New Germany			-2.09	22.46	b				-2.09	22.46	c
30	Spain	20.81	42.77	28.24	45.31		30.38	53.72		26.10	35.37	
31	Swiss Helvetia	-7.53	7.41	-5.36	7.44		-8.45	6.70		-2.27	6.88	
32	United Kingdom	-16.42	5.23	-14.77	3.61		-16.07	2.71		-13.47	3.95	

Notes: (a) If fund is incepted before year 1989.
(b) Because inception occurs during year 1989 or 1990, parameter is estimated for less than 104 weeks.
(c) Because inception occurs during year 1989 or 1990, parameter is estimated for less than 52 weeks.

Table 14

AVERAGE WEEKLY PREMIUMS (DISCOUNTS) : MEAN IN PERCENTAGE - COEFFICIENT OF VARIATION IN ABSOLUTE TERMS

	Country Fund Name	Since Inception (a) Mean	|C.V.|	Period 89/90 Mean	|C.V.|		Year 1989 Mean	|C.V.|		Year 1990 Mean	|C.V.|	
1	Brazil	-23.51	88.16	-23.90	98.42		-42.95	14.78		-4.84	378.75	
2	Chile			2.26	655.89	b	10.68	92.54	c	-0.31	4754.65	
3	Emerging Mexico			-15.52	20.29	b				-15.52	20.29	c
4	First Philippine			-8.00	277.37	b	26.98	62.94	c	-13.30	134.80	
5	India Growth	-2.80	737.64	0.60	3454.33		-5.23	352.40		6.42	330.01	
6	Indonesia			-0.64	1799.97	b				-0.64	1799.97	c
7	Jakarta Growth			-4.74	348.33	b				-4.74	348.33	c
8	Korea	60.52	56.42	65.47	47.38		91.29	16.36		39.65	47.93	
9	Malaysia	-0.13	16183.40	3.58	564.03		-4.86	320.52		12.01	173.54	
10	Mexico Equity/Income			-12.44	78.07	b				-12.44	78.07	c
11	Mexico	-7.26	493.03	-10.11	94.32		-16.09	44.42		-4.13	187.01	
12	Portugal			-0.77	2272.15	b	18.33	12.41	c	-4.03	419.11	
13	R.O.C. Taiwan			-4.99	265.78	b	1.82	778.23	c	-9.60	109.50	
14	Singapore			-15.71	58.93	b				-15.71	58.93	c
15	Taiwan	37.45	123.92	14.18	117.78		7.04	195.48		21.33	77.07	
16	Thai Capital			-8.65	124.45	b				-8.65	124.45	c
17	Thai	25.83	76.65	23.85	86.17		27.90	46.37		19.79	129.01	
18	Turkish Investment			-20.52	38.18	b	-10.81	47.04	c	-21.86	28.00	
19	Austria			2.98	941.36	b	22.98	75.41	c	-2.70	1044.81	
20	Emerging Germany			-14.70	42.38	b				-14.70	42.38	c
21	First Australia	-14.28	66.25	-14.82	63.01		-19.06	30.76		-10.58	96.90	
22	France Growth			-12.61	98.89	b				-12.61	98.89	c
23	Future Germany			-13.03	50.55	b				-13.03	50.55	c
24	Germany	1.77	997.73	8.86	269.52		-1.04	1790.89		18.76	130.88	
25	Growth F. Spain			-15.50	55.09	b				-15.50	55.09	c
26	Irish Investment			-19.43	47.04	b				-19.43	47.04	c
27	Italy	-11.97	112.42	-8.64	165.08		-11.57	83.53		-5.71	303.20	
28	Japan OTC Equity			0.93	2100.31	b				0.93	2100.31	c
29	New Germany			-2.09	1074.94	b				-2.09	1074.94	c
30	Spain	20.81	205.51	28.24	160.45		30.38	176.82		26.10	135.53	
31	Swiss Helvetia	-7.53	98.42	-5.36	138.87		-8.45	79.33		-2.27	303.76	
32	United Kingdom	-16.42	31.84	-14.77	24.45		-16.07	16.85		-13.47	29.30	

Notes: (a) If fund is incepted before year 1989.
(b) Because inception occurs during year 1989 or 1990, parameter is estimated for less than 104 weeks.
(c) Because inception occurs during year 1989 or 1990, parameter is estimated for less than 52 weeks.

TABLE 15: Time Series Regression Results

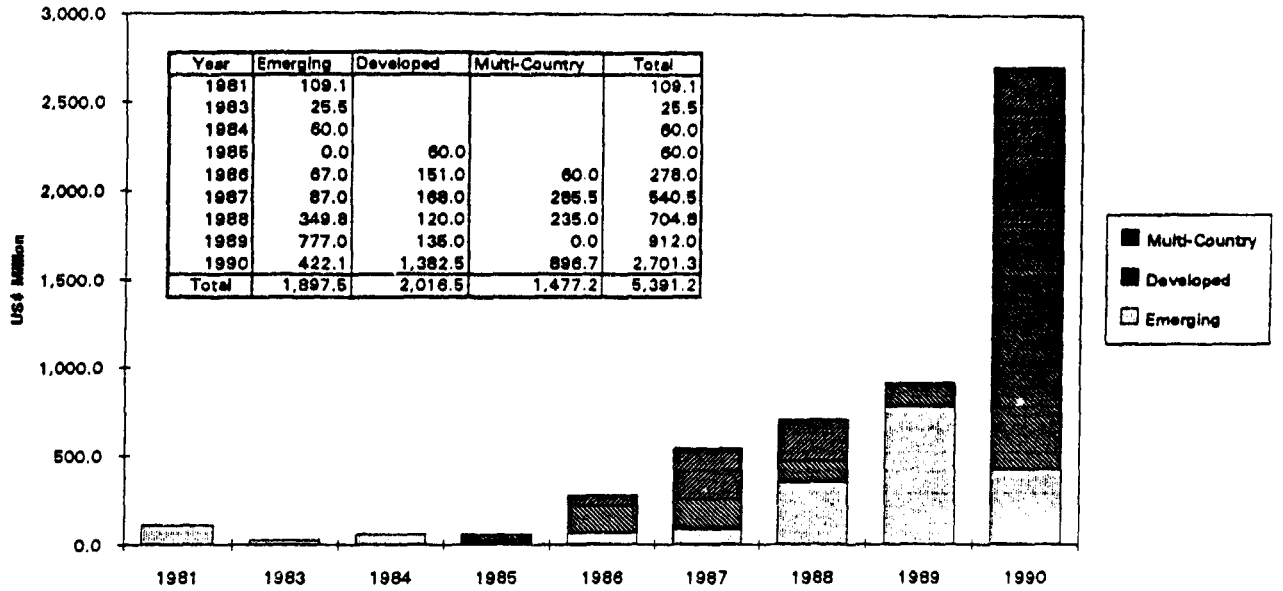
Fund	*Parameter Estimates*						
	Spanning		*Substitution*		*Global P/D*		
	β_1	$t(\beta_1)$	β_2	$t(\beta_2)$	β_3	$t(\beta_3)$	Adj. R^2
Emerging Markets							
Brazil	-0.0558	-0.4405	-0.2806	-2.7226*	0.3945	1.6701	0.8610
Chile	0.0912	1.2076	-0.0487	-1.6865	0.6281	2.9520*	0.8636
First Philippines	-0.0017228	-0.0546	-0.0026662	-1.8884	0.9319	8.4187*	0.7742
India	0.0067448	0.0767	0.0099327	0.3198	0.3197	2.2125*	0.9209
Indonesia	-49992	-0.0530	0.0256	0.5149	1.3220	4.0041*	0.7416
Jakarta	-0.0725	-0.7977	-49413	-0.1469	1.3074	3.9889*	0.7237
Korea	-0.0572	-0.5405	0.0352	0.7832	1.3639	8.4313*	0.9598
Malaysia	0.1046	1.1134	-0.0230	-0.8544	1.2385	8.0456*	0.8942
Mexico	0.1041	2.0773*	-0.0001965	-0.0087619	0.4856	4.7911*	0.8109
Portugal	-0.0028923	-0.0279	0.0090882	0.5350	1.2434	7.0208*	0.7932
ROC Taiwan	0.1503	1.5075	-0.0654	-1.2731	0.8757	6.0904*	0.8128
Taiwan	0.0752	0.5856	0.0961	2.0567*	1.0403	3.8131*	0.7059
Thai	0.1851	2.1963*	0.0487	2.0603*	1.7055	6.1021*	0.6922
Thai	-0.0142	-0.1645	-0.0233	-1.1701	1.3889	8.3366*	0.8586
Turkish	0.0763	0.6248	0.0823	0.4404	0.5680	1.6167	0.7476
Developed Markets							
Austria	0.0698	0.9427	0.0242	1.1043	0.9581	4.2934*	0.5087
Emerg. Germany	-0.1297	-1.6814	0.0268	0.4173	0.7659	4.0287*	0.6315
France	-0.0542	-0.6035	0.0082915	1.3214	0.5286	3.5312*	0.2960
Fst. Austr.	0.0506	1.0262	0.0279	2.5850*	0.3691	4.1035*	0.8140
Future Germ.	-0.0268	-0.3199	-0.0078742	-0.1260	1.0731	6.7805*	0.7252
Germany	0.0421	0.3004	-0.0353	-1.3793	2.1302	10.2547*	0.8646
Gr. Spain	-0.2439	-5.3164*	-0.1057	-2.5332*	0.6194	4.5617*	0.8930
Irish Inv.	0.0199	0.4659	-0.1017	-9.2316*	0.2028	2.0641*	0.8658
Italy	0.0093571	0.1467	0.0124	0.7054	0.4375	3.5173*	0.8475
Japan OTC	-0.1120	-0.7581	0.0337	0.6174	2.4663	6.7133*	0.9049
Ne Germ.	0.0568	1.2281	-0.0457	-4.5929*	0.7089	5.5338*	0.5951
Spain	0.2667	1.6036	0.0606	1.9284	1.8803	7.4391*	0.9397
Swiss Hel.	0.1205	3.3535*	0.0553	3.6178*	0.3561	6.0165*	0.8114
U.K.	0.0087840	0.2974	0.0381	4.1510*	0.1597	4.4488*	0.4839

Figure 1

LAUNCHING OF NEW (*) COUNTRY FUNDS IN NEW YORK

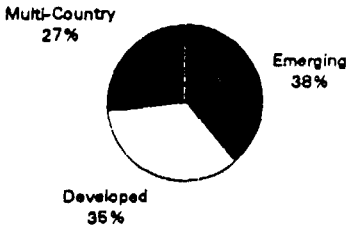
(*) New issues of existing funds are considered as launchings of new funds

Year	Emerging	Developed	Multi-Country	Total
1981	109.1			109.1
1983	25.5			25.5
1984	60.0			60.0
1985	0.0	60.0		60.0
1986	67.0	151.0	60.0	278.0
1987	87.0	168.0	285.5	540.5
1988	349.8	120.0	235.0	704.8
1989	777.0	135.0	0.0	912.0
1990	422.1	1,382.5	896.7	2,701.3
Total	1,897.5	2,016.5	1,477.2	5,391.2



CAPITALIZATION OF FUNDS IN NEW YORK

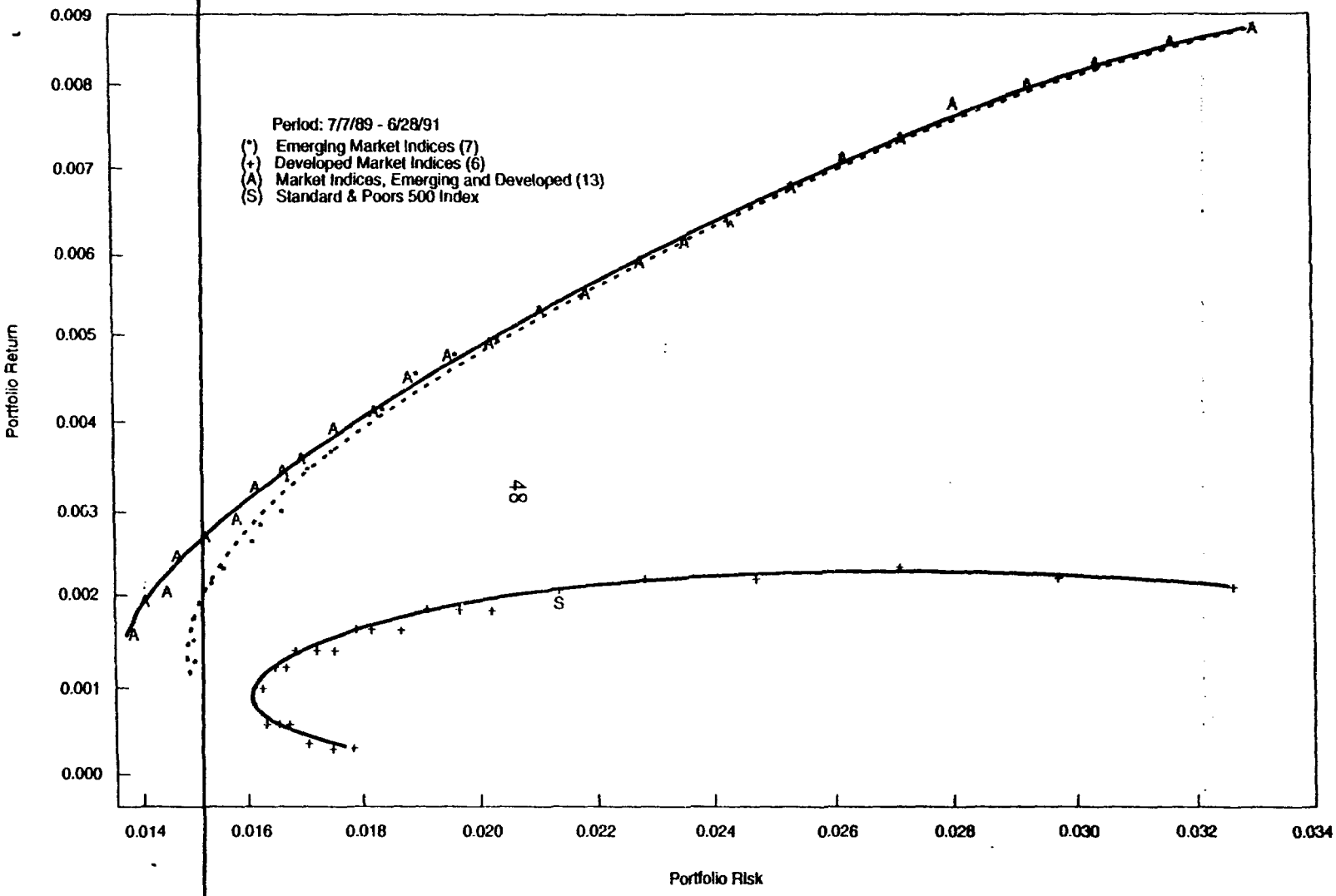
End of 1990



	Market Value 1990 US$ Millions
Emerging	1,661.9
Developed	1,492.3
Multi-Country	1,141.4
Total	4,295.6

Figure 2

EFFICIENT FRONTIERS FOR PORTFOLIOS OF SELECTED LOCAL STOCK MARKETS



Note: 277 Observations had missing values or were out of range.

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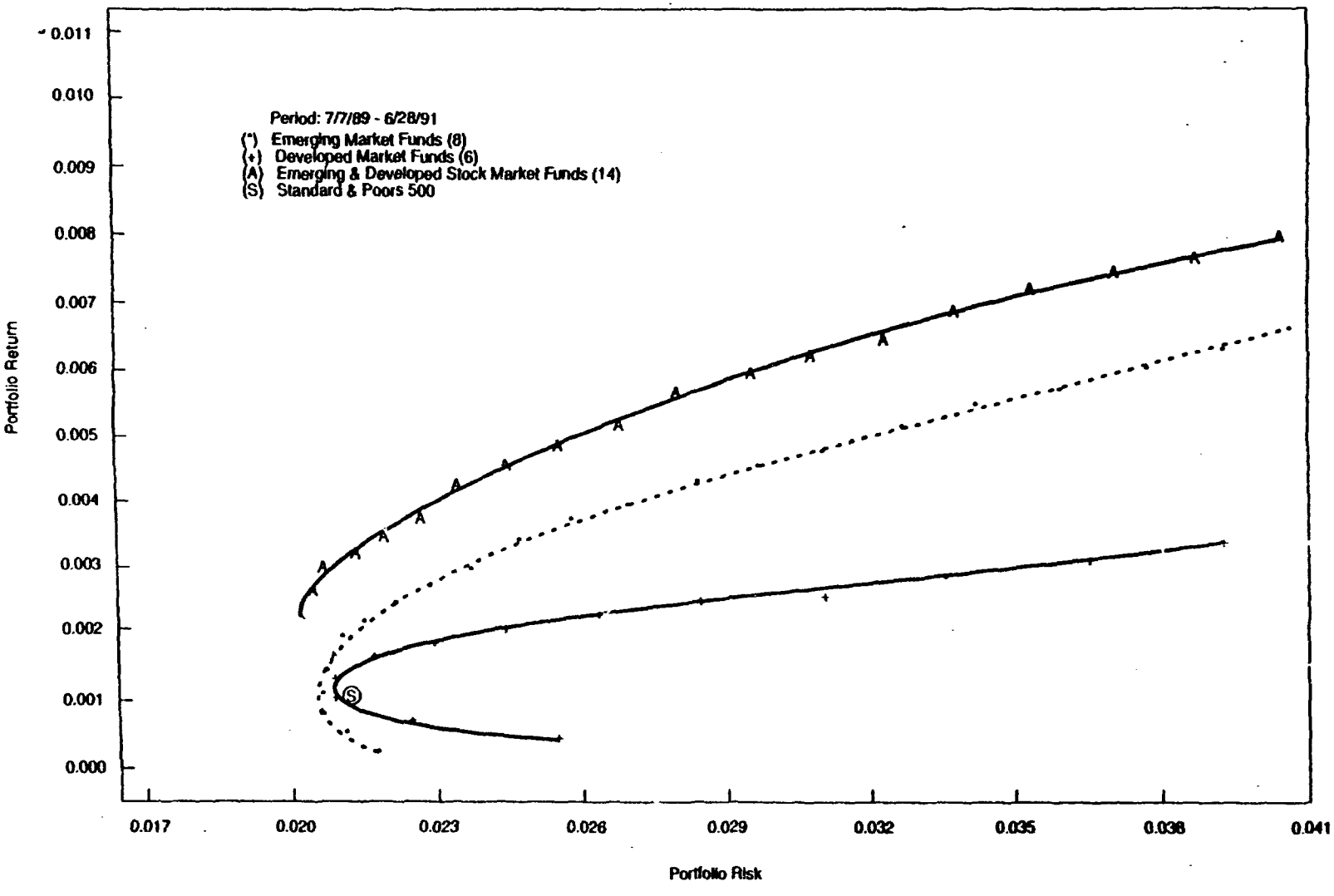
Figure 3

EFFICIENT FRONTIERS FOR PORTFOLIOS OF SELECTED FUND (PRICES)



Note: 306 Observations had missing values or were out of range.

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